

# TECHNOLOGY

## REVIEW

*April 1957*

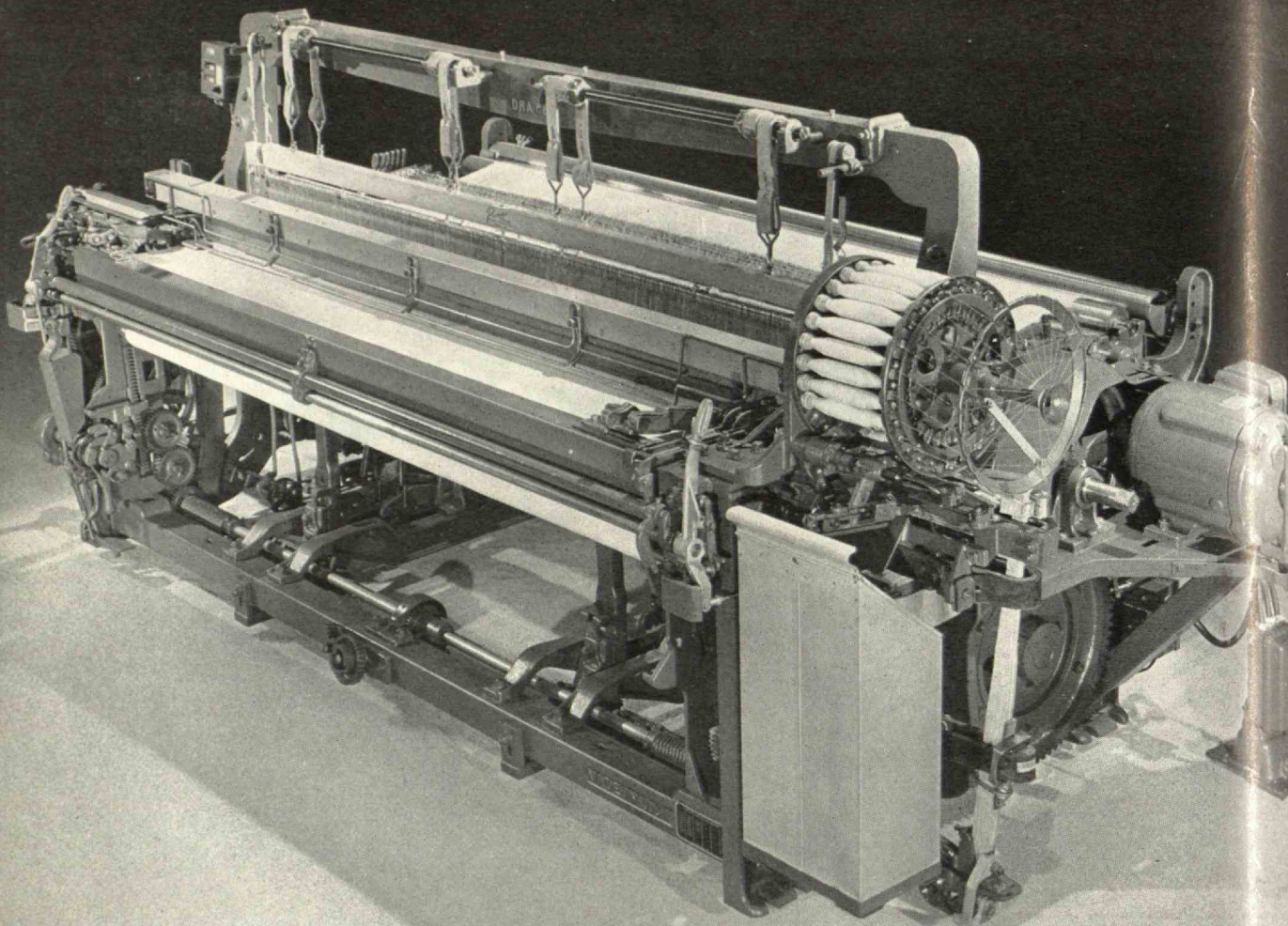


# technology review

Published by MIT

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Model XP-2

## Increase Wide Sheeting Production ... with the new XP-2

New constructions found necessary for higher speeds in other models are now available *for the first time* in a wide sheeting loom.

The Draper XP-2 is equipped with a conventional type Pick Motion, simplified Power Transmitter, Bartlett Let-Off, Worm Take-Up, Easy Shipper and Positive Brake.

These adaptations mean increased production, greater loom versatility, less downtime and easier loom operation.

Engineered for high speed and efficient performance the Draper XP-2 offers *better profit margins*.



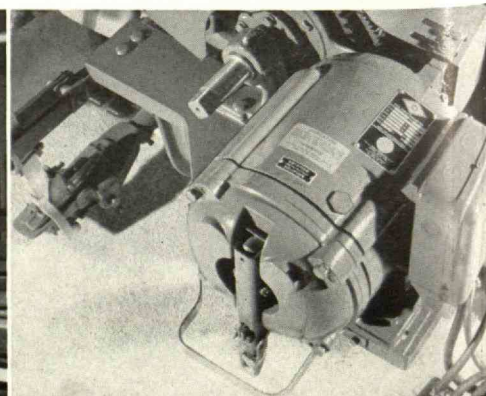
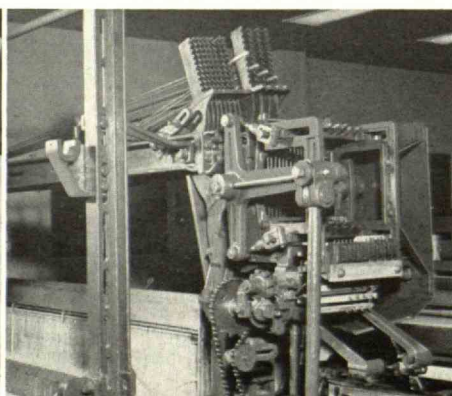
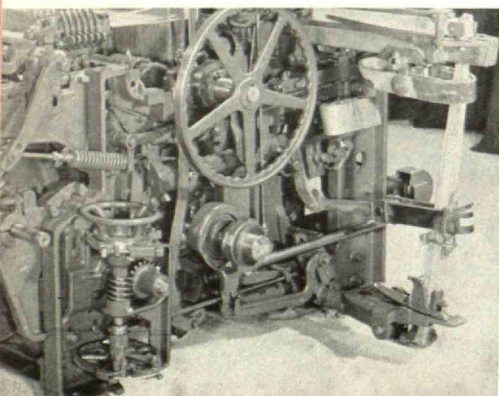
**DRAPER  
CORPORATION**

Hopedale, Mass.

Atlanta, Ga.

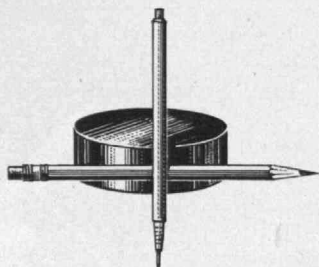
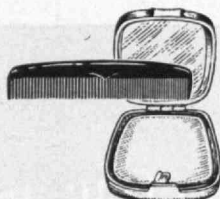
Greensboro, N. C.

Spartanburg, S. C.





... combs or cosmetics



... pencils or pucks

... inks or insecticides



## Better Products begin with CABOT!

Cabot raw materials for industry — still increasing and constantly being improved by continuing Cabot research — have been putting a plus into other people's products for 75 years.

Better rubber and plastics products... better paints and pharmaceuticals... better inks and insecticides... the list of products made better by Cabot raw materials is long — and still growing.

It costs you nothing to find out whether or not Cabot can help you with your raw material problems — and it may well result in a product that performs better, lasts longer, earns more profit. It's happened before with hundreds of manufacturers who have proved to themselves that better products begin with Cabot.



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**CABOT CARBON BLACKS**... more than 45 different grades of channel, furnace and thermal blacks for use by the rubber, printing ink, paint, varnish, lacquer, enamel, plastics, paper, phonograph record, battery and other industries.

**WOLLASTONITE**... as a paint pigment, this white, uniform calcium metasilicate, has more desirable properties than other extenders used singly or in combination. Excellent for ALL types of paint, and for the quality improvement of wall tile and semi-vitreous ceramics.

**CAB-O-SIL®**... this unique colloidal silica, in extremely small quantities, greatly improves large numbers of products. The best flow control agent available, it's especially remarkable for its unusual combination of properties. Used for rubber, paint, varnish,

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THE TECHNOLOGY REVIEW, April, 1957, Vol. LIX, No. 6. Published monthly from November to July inclusive at Emmett Street, Bristol, Conn. Publication date: twenty-seventh of the month preceding date of issue. Annual subscription \$4.00; Canadian and Foreign subscription, \$4.50. Entered as second-class matter December 23, 1949, at the Post Office, at Bristol, Conn., under the Act of March 3, 1879.



"Western Electric is  
helping me get  
my master's  
degree"



**JOHN MORAN**, who joined Western Electric's engineering staff at the Kearny Works recently, is now studying for his M.S.M.E. under the new Tuition Refund Plan. Western Electric expects to refund the tuition for John's graduate study at the Newark College of Engineering this year.

# Western Electric's new TUITION REFUND PLAN

## can help you continue your studies while launching an exciting career

**Under the new plan,** Western Electric will refund tuition costs for after-hours study at graduate or undergraduate level, up to a maximum of \$250 for each school year.

\* Say, for example, that you decide on a career at Western Electric in one of many rewarding phases of telephony—electronics, development engineering, design, manufacturing production, plant engineering, or some other. You may be eligible for financial assistance to help defray the cost of graduate or other study from the very first day. Choose engineering, science or any course that is appropriate to your job or that adds to your ability to accept greater responsibility, and the Company will refund to you up to \$250 a year for tuition. (You'll note from the map on this page that Western Electric's work locations are well situated in terms of major population areas. That means that many of the nation's best schools are close by.)

Plus values, like the new Tuition Refund Plan, give Western Electric engineers many opportunities that others never have. There's specialized training both in the classroom and on the job... a formal program of advanced engineering study that includes full-time, off-job courses of up to 10 weeks' duration... a retirement and benefit program that's one of the best known and most liberal in industry... low-cost life insurance that would appeal to any man with his eye on the future. And of paramount importance is the chance to work alongside top men in the field of communications.

There's a good deal more for which there isn't space here. Why not write us or contact your placement office to schedule an interview when Bell System representatives visit your campus.

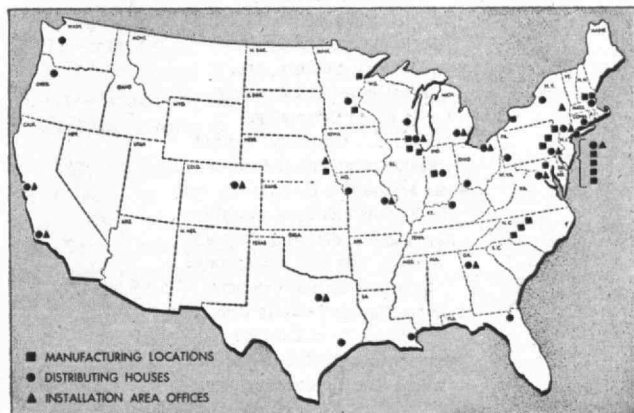
**As one of us,** you'd help engineer the manufacture, distribution or installation of the equipment needed for the nation-wide communications network of 49 million Bell telephones.

Here—where transistors were first developed for production; where repeaters for the new transatlantic telephone cable were tailor-made—there's a constant need for new products and new processes. Two-thirds of the equipment we make today for the Bell telephone companies is of types developed since World War II.

Besides telephone work, Western Electric—over the years — has been responsible for a continuous flow of defense jobs for the government such as the Nike guided missile system and the DEW Line.

There's plenty of room for advancement... whatever your field of specialization. So—whether you'd be helping with our telephone job, or working on a major defense project like guided missile systems—with Western Electric you can expect to grow!

For our College Tuition Refund Plan booklet and additional information about Western Electric write: College Relations, Room 1034, Western Electric Company, 195 Broadway, New York 7, N. Y.



Western Electric has major manufacturing plants located at Chicago, Ill., Kearny, N. J., Baltimore, Md., Indianapolis, Ind., Allentown, Pa., Winston-Salem, N. C., Buffalo, N. Y., North Andover, Mass. Distribution Centers in 30 cities. Installation headquarters in 16 cities. General headquarters: 195 Broadway, New York, N. Y. Also Teletype Corporation, Chicago 14, Illinois.

# Western Electric

MANUFACTURING AND SUPPLY

UNIT OF THE BELL SYSTEM





## HYCON FILTER APPLICATIONS ARE MANY...

Whether tracking signals from outer space or dispatching a fleet of radio equipped taxicabs, Hycon Filters are finding wide application in many of today's advanced receiver installations. Listed herewith are a number of users of Hycon Filters. It will pay you to investigate how Hycon Filters can help solve your selectivity problems.

A C The Electronics Division  
General Motors Corporation  
Air Force Cambridge Research Center  
Allen B. DuMont Laboratories, Inc.  
American Radio Relay League  
Applied Physics Laboratory  
The Johns Hopkins University  
Bell Telephone Laboratories, Inc.  
Canadian Marconi Company  
Collins Radio Company  
Crosley Division  
Avco Manufacturing Corporation  
Ewen Knight Corporation  
Fada Radio & Electric Co., Inc.  
Federal Telecommunication Labs.  
General Electric Company  
General Precision Laboratory, Inc.  
Gilfillan Brothers, Inc.  
Hughes Aircraft Company  
Kahn Research Laboratories  
Laboratory For Electronics, Inc.  
Laboratory Procurement Office  
The Army Signal Supply Agency  
Lear, Inc.  
Massachusetts Institute of Technology  
Lincoln Laboratory  
Motorola, Inc.  
National Bureau of Standards  
National Company, Inc.  
Naval Research Laboratory  
Philco Corporation  
Pye Ltd. . . . Cambridge, England  
Radio Corporation of America  
Radio Engineering Laboratories, Inc.  
The Ramo-Wooldridge Corporation  
Raytheon Manufacturing Company  
Siemens New York Incorporated  
Stromberg-Carlson Company  
Sylvania Electric Products Company  
University of Colorado  
Westinghouse Electric Corporation  
Wilcox Electric Company, Inc.



**HYCON EASTERN, INC.**

75 Cambridge Pkwy., Cambridge 42, Mass.

Affiliated with HYCON MFG. CO., Pasadena, Calif.

## THE TABULAR VIEW

**Look at Communism.** — After almost four decades of planning and rigid control, recent events in Russia, and especially in Hungary and Poland, strikingly reveal the success of communistic "peoples democracy." At the M.I.T. Mid-America Conference in Chicago, ALLEN W. DULLES discussed "Evolution in the Communist World" which The Review is pleased to bring to a larger audience (page 295). After receiving the B.A. and M.A. degrees from Princeton University in 1914 and 1916, Mr. Dulles served with distinction for a decade in the diplomatic service of the United States. He was a member of the American Commission to negotiate peace at the Paris Peace Conference, 1918-1919, a U.S. delegate to the International Conference on Arms Traffic in Geneva in 1925, a delegate to the Preparatory Disarmament Conference of 1926, and legal adviser to the American delegation of the General Disarmament Conference in Geneva, 1932-1933. He served with the Office of Strategic Services in Switzerland in World War II, and later became head of the O.S.S. mission to Germany. Currently, he is director of the Central Intelligence Agency.

**Technology Shapes Future.** — In February, PRESIDENT JAMES R. KILLIAN, JR., '26, spoke at the Institute's two Regional Conferences held in Tulsa and Chicago. Dr. Killian's scholarly address at Tulsa (page 299) emphasizes the positive contributions which technology makes to our way of life. At last count, Dr. Killian held degrees from M.I.T., Middlebury College, Bates College, University of Havana, Lowell Technological Institute, Notre Dame University, Union College, Bowdoin College, Northeastern University, Duke University, Boston University, Harvard University, Williams College, Lehigh University, University of Pennsylvania, University of Chattanooga, Tufts University, Amherst College, University of California, and Drexel Institute of Technology.

*(Concluded on page 278)*



New York Telephone Co., Jamaica, L. I.  
Voorhees, Walker, Smith & Smith, Architects

### Good guide in selecting a builder

Most companies we work for carry on building projects continuously. They know what constitutes good service—and where to get it!

### W. J. BARNEY CORPORATION

Founded 1917

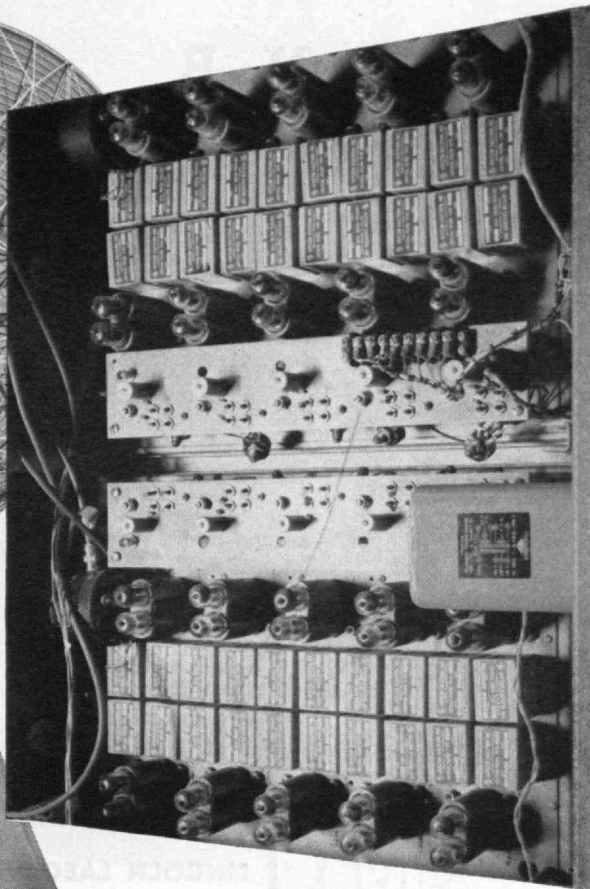
**INDUSTRIAL CONSTRUCTION**

**101 Park Avenue, New York**

Alfred T. Glassett, '20, President

Radio Telescope at Harvard University's Agassiz Station Observatory.

**Simultaneous detection  
of 20 signals from  
neutral hydrogen . . .**



Banks of Hycon Filters . . . Section of Radio Telescope Receiver designed and built by Ewen Knight Corporation.

## another problem solved by **HYCON FILTERS**

Extending man's view into the depths of the universe is a giant new Radio Telescope at Harvard University's Agassiz Station Observatory. Astronomers are reconstructing the spiral structure of our Milky Way by measuring Doppler Shift of radio signals originating from neutral hydrogen.

### ELECTRICAL SPECIFICATIONS - NARROW BAND SERIES

Frequency range: 10 Kc - 30 Mc

Relative Bandwidth: .02% to .5% of center freq.

	Type 11	Type 22	Type 44
Shape Factor:	8	3	1.8

Playing a vital role in the Radio Telescope Receiver which makes these measurements possible are Crystal Filters designed and manufactured by Hycon Eastern. Hycon Filters were selected for their accuracy, stability and selectivity. Spaced at 100 Kc intervals from 5.5 Mc to 9.5 Mc, these Type 11 Filters from Hycon's Narrow Band Series have a 3 db bandwidth of 5 Kc and insertion loss of less than 3 db.

Hycon Eastern is currently producing Crystal Filters in the 10 Kc to 30 Mc range. Because they make possible a reduction in the number of conversions, Hycon Filters are finding wide application in mobile and fixed radio receivers and transmitters.

*Write for Crystal Filter Bulletin.*



**HYCON EASTERN, INC.**

75 Cambridge Parkway Dept. H-4 Cambridge 42, Mass.

Affiliated with HYCON MFG. COMPANY, Pasadena, California

IRE SHOW  
Booths 3038 & 3039



# N. B.

Write for the folder describing activities of The Lincoln Laboratory:

**HEAVY RADARS**  
**MEMORY DEVICES**  
**TRANSISTORIZED**  
**DIGITAL COMPUTERS**  
**SCATTER COMMUNICATIONS**  
**SOLID STATE**

**AEW** (air-borne early warning)  
**SAGE** (semi-automatic ground environment)

... and others which are integral parts of the nation's air defense system.

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You and we can form a team—you to draw up the specifications; we to make the gears—that will be profitable to both of us. Gears of all types, all sizes, all materials. Design-engineering service available.

Custom Gears Exclusively

**DIEFENDORF GEAR CORPORATION**  
Syracuse 1, N. Y.

**DIEFENDORF**  
**GEARS**

## THE TABULAR VIEW

(Concluded from page 276)

**Regional Conferences.**—The Regional Conferences held in Tulsa and Chicago in February are reported (pages 302 and 303) by **VOLTA W. TORREY** and **JOHN I. MATTILL**, both of the Institute's Public Relations Office. As Director of Television, Mr. Torrey is actively engaged in initiating program material for M.I.T. educational programs from WGBH-TV, channel 2. Mr. Mattill is Director of Publications and responsible for producing many publications emanating from M.I.T. each year. He is also assistant to the Director of Public Relations.

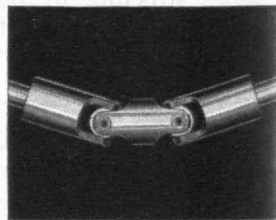
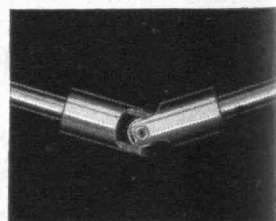
**Lock, Stock, and Barrel.**—A lesson in economics as well as in manufacturing technology is provided in the article (page 304) by **FREDERIC W. NORDSIEK**, '31, who has been an editorial associate of *The Review* since 1944. Mr. Nordsiek received the S.B. degree in biology from M.I.T. in 1931 and has since been engaged in research, teaching, and administration in public health and food technology. He is a fellow and life member of the American Public Health Association, and past chairman of its Food and Nutrition Section. As a free-lance writer, Mr. Nordsiek has published 129 articles in the past 15 years (including several for encyclopedias and many for *The Review*) and also several poems. He is now executive officer of the Research Department of the American Cancer Society in New York.

## How Curtis helped a design engineer "BEAT THE HEAT"

This single universal joint in a ribbon-stripping machine was operated at a 34° angle. The joint heated up, wear was excessive. (Curtis Joints have been tested at angles up to 37°, but we do not recommend angles greater than 30°.)

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You can depend on Curtis engineering in any problem of angular power transmission. And you can depend on



**CURTIS UNIVERSAL JOINTS** because our catalog torque and load ratings are substantiated by constant tests under production conditions.

14 SIZES ALWAYS IN STOCK  
3/8" to 4" O.D.  
(6" joints on special order)

Not sold through distributors. Write direct for free engineering data and price list.

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**CURTIS**  
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As near to you as your telephone

EXCLUSIVELY A MANUFACTURER OF UNIVERSAL JOINTS SINCE 1919



This is just one of the many fields in which Union Carbide offers CAREERS WITH OPPORTUNITY

## Keeping water out in the rain

MASONRY WALLS made of brick, stone, or concrete have long stood the test of time. But today, they can be made even better with a coating of silicone water repellents. These amazing materials prevent damaging rainwater from entering the countless tiny pores or openings in masonry structures.

When the water freezes after penetrating, it can cause spalling—cracks off small pieces. And, if it seeps all the way through to the inside of a building, paint peels . . . woodwork warps . . . plaster stains and cracks.

Now, silicone water repellents provide the answer. Brushed or sprayed on the surface, they line—not seal—the pores in masonry. Even heavy rain driven by hurricane winds cannot break through this invisible


raincoat . . . yet, because the pores are not sealed, moisture from within can evaporate freely.

The people of Union Carbide produce silicones for other uses, too . . . automobile and furniture polishes, lubricants, electrical insulation, and new rubber-like products . . . all of which help bring more and better things for all of us.

**STUDENTS AND STUDENT ADVISERS:** Learn more about career opportunities with Union Carbide in ALLOYS, CARBONS, CHEMICALS, GASES, and PLASTICS. Write for "Products and Processes" booklet C-2.

# UNION CARBIDE

## AND CARBON CORPORATION

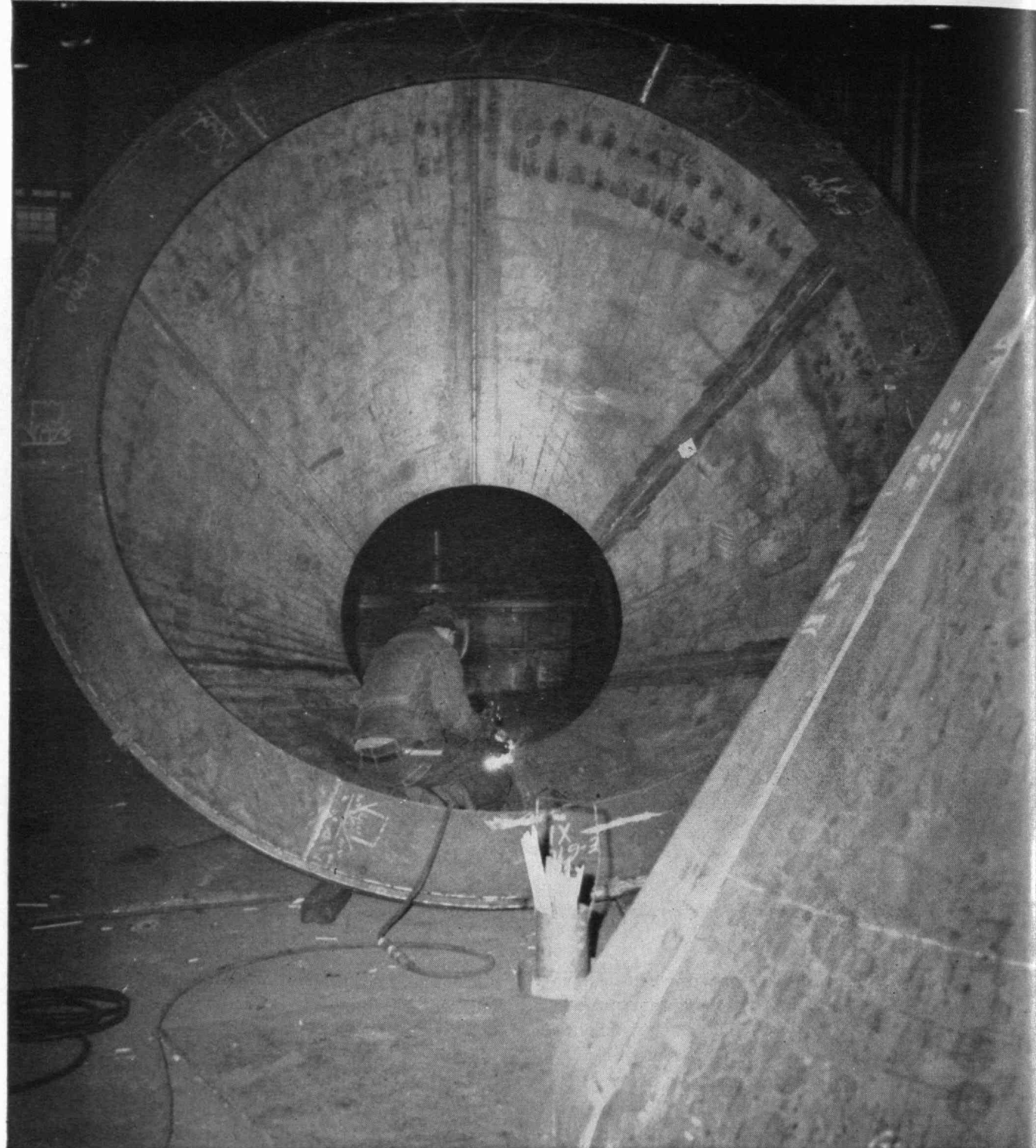
30 EAST 42ND STREET  NEW YORK 17, N. Y.

In Canada: UNION CARBIDE CANADA LIMITED, Toronto

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UNION CARBIDE Silicones	CRAG Agricultural Chemicals	EVEREADY Flashlights and Batteries	ELECTROMET Alloys and Metals
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PYROFAX Gas	BAKELITE, VINYLITE, and KRENE Plastics	NATIONAL Carbons	UNION Calcium Carbide
			PREST-O-LITE Acetylene





## MIGHTY CONES FOR LITTLE CHIPS!

These cone bottoms for two 11' x 43' pulp digesters typify Graver's skill and craftsmanship in stainless-clad fabrication. Designed for an operating pressure of 126 psi, the digesters are made of Type 316 stainless clad to firebox quality steel. Digesters are but one of many types of pressure and storage vessels for which Graver's century-long fabricating experience is employed by industry.

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# All This — AND A HUSBAND WHO'S A WESTINGHOUSE ENGINEER

PITTSBURGH—Renaissance City of America



**HAPPY?** What wife wouldn't be, knowing her husband will enjoy all the advantages of a creative career in *Atomic Power* with *Westinghouse*, while her family derives all the advantages of living in **NEW Pittsburgh**. There's good reason why this vast metropolis is called "*The Renaissance City of America*." You need only see the lovely new homes, modern schools, smart shops, and inspiring cultural centers that blanket the city, and you know there is no finer locale for your career as a home-maker, and your husband's career as a *Westinghouse* engineer.

## Do You Know That PITTSBURGH:

- Has a population of 2,316,050
- Is the Atomic Center of the free world, thanks to the pioneering efforts of Westinghouse Electric Corp.
- Has more large department stores than any city between New York and San Francisco
- Has 5 colleges and universities
- Has built more than 60,000 dwelling units in its city and suburban area during the past 5 years
- Has 7 leading hotels; 92 newspapers and periodicals; 18 radio and 3 television stations
- Has 100 independent elementary and high school districts, including over 850 public and parochial schools in its city and suburban area
- Has over 1200 houses of worship of all denominations
- Has 22 parks, 9 parklets, 29 recreation centers, zoos, golf courses, hunting and fishing retreats; and professional baseball, football and hockey teams
- Has countless movies, drive-ins, play houses; art and musical shows, exhibits, and organizations.

**NO DELAYS AWAITING SECURITY CLEARANCE.**

*Responsible positions that offer immediate opportunities.*

**ELECTRICAL ENGINEERS** Degree; design, application, test and analysis of instrumentation and control systems and components.

**MECHANICAL ENGINEERS** For liaison. Power Plant machinery layout. Some stress, supervise final installation. Degree required.

**HEAT EXCHANGER ENGINEERS** Mechanical engineers for design and manufacturing follow of heat exchangers and steam generators for high pressure service. Degree required.

**MANUFACTURING ENGINEERS** Experienced pumps, valves. Work as liaison between engineering department and vendors on centrifugal pumps and other semi-standard centrifugal and positive placement pumps and valves.

**METALLURGICAL ENGINEERS** Responsible for materials and processes application to marine nuclear power plants.

Send your resume to: Mr. John D. Batey, Dept. #A-5  
Westinghouse Electric Corporation,  
P. O. Box 1047, Pittsburgh 30, Penna.

**Westinghouse**  
ELECTRIC CORP.  
*First in Atomic Power*





***...pioneers in  
nuclear energy since 1936***

At the University of California Radiation Laboratory, Berkeley and Livermore, there is an unusual spirit among scientists and engineers—a spirit stimulated by association with pioneers in nuclear research who encourage development of new ideas, techniques, and individual initiative.

Since its founding in 1936, UCRL has contributed an impressive list of achievements to the world's knowledge of the atomic nucleus—from development of the cyclotron and Bevatron, to electromagnetic separation of uranium-235, to the discovery of the antiproton and antineutron.

These accomplishments have, of course, stemmed from an outstanding group of men working with unmatched laboratory facilities. But just as important—and the key, perhaps, to UCRL's successes—has been the spirit with which these men work.

For UCRL is managed and directed by scientists and engineers—men who are liberal with their own knowledge and enthusiastic in the encouragement of their teammates' new ideas and new techniques.

This is the constant and continuing spirit of UCRL. It is to be found in each new and expanded project—whether it involves pure or applied science. It keynotes work on nuclear weapon design, nuclear propulsion, controlled thermonuclear energy (Project Sherwood), and high current accelerators, as well as such problems as the application of radioactive substances to biology and medicine.

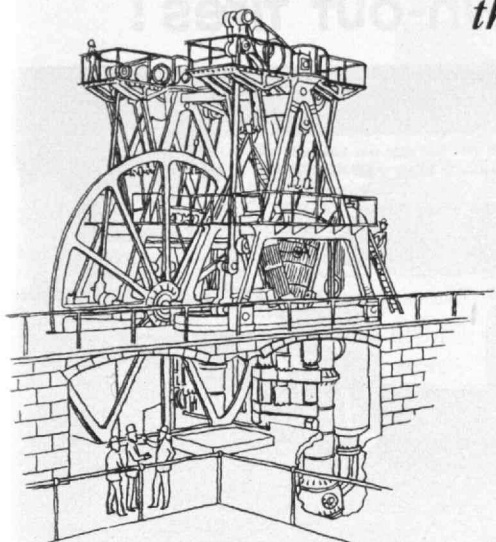
The UCRL “spirit” appeals to a particular kind of scientist and engineer—to men of ability and imagination, to men who wish to move forward and challenge the unknown. If you wish additional information, write to the Director of Professional Personnel, University of California Radiation Laboratory, Livermore, California.

*During the late*

# 19th CENTURY

*this cumbersome machine*

*set the pace in large pumping units*

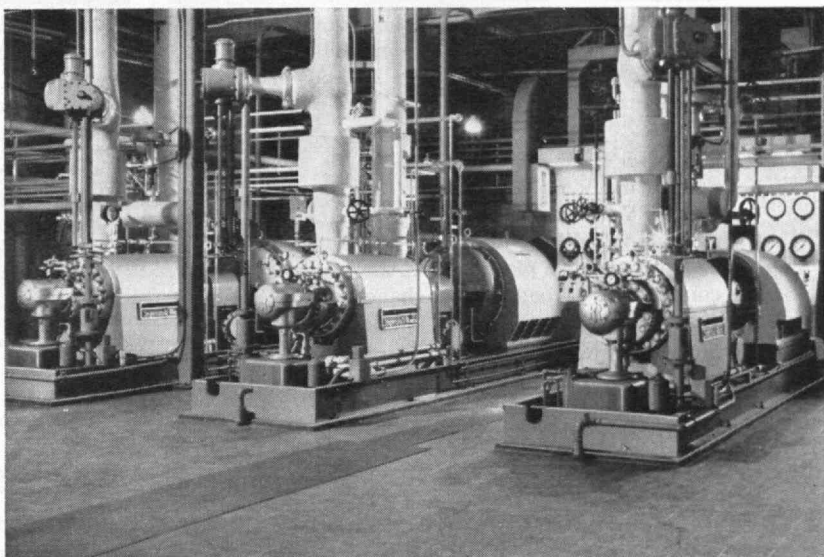


**T**YPICAL of the massive pumping units that prevailed during the late years of the nineteenth century, this machine supplied water to a New England municipality. Of formidable appearance, it was considered the sensation of its day.

## **TODAY** *it's the modern* **BOILER FEED PUMP** *... marking another milestone* *in pump development by Ingersoll-Rand*

IN power plants throughout the country, modern Ingersoll-Rand boiler feed pumps are being specified again and again to meet the increasing demand for heavy-duty high-pressure service. These trim, compact multi-stage pumps, of the solid forged-steel barrel-casing design, are delivering trouble-free performance with sustained efficiency for pressures from 1000 to 6500 psi and capacities up to 2800 gpm.

If you'd rather help *make* industrial history than read about it, why not look into the fine job opportunities available with Ingersoll-Rand. For further information, contact your Placement Office or write Ingersoll-Rand.



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10-557

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APRIL, 1957

283



# BOSTON TO NEW YORK

## 231 miles...on four blown-out tires!



**HERE WE GO!** We blew out all four tires with a knife. Now we're moving through Boston's Copley Square. This stop-and-start city driving is no tea

party for 4 blown-out tires. But the tough nylon "inner tires" take the punishment in stride... make us feel certain we'll reach New York safely.



**175 MILES OUT!** We're near the posted speed limit of 55. Are we worried? Not a bit! This double air chamber principle is backed by millions of miles of LifeGuard experience.

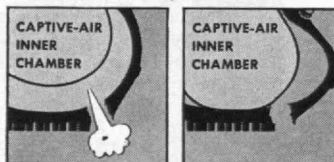


**231 MILES LATER!** We arrive in Times Square on those four blown-out Captive-Air Safety tires! No damage to the "inner tires"—no damage to the outer tires other than the knife cuts.

Goodyear's new nylon Captive-Air Safety tires made tire changes unnecessary. You, your wife and children can be virtually free from the danger of blowouts and punctures... the inconvenience of roadside tire changing.

The Captive-Air Safety tire, tested and proved in Detroit, is now standard and optional equipment on some of America's finest cars. See it this week. Goodyear, Akron 16, Ohio.

Here's how Captive-Air works:



*Left:* Only the air in the outer chamber escapes when the Captive-Air tire is cut, torn or blown out.

*Right:* Reserve air in the built-in spare supports the car—lets it drive on for 100 miles or more.



**MORE PEOPLE RIDE ON GOODYEAR TIRES THAN ON ANY OTHER KIND!**



**Only Goodyear has CAPTIVE-AIR... the safety tire with the built-in spare!**

# GOODYEAR

Ask about our Lifetime Guarantee. No time limit!  
No mileage limit! No expiration date!

LifeGuard, Captive-Air, T.M.'s, The Goodyear Tire & Rubber Company, Akron, Ohio



Photo by Three Lions

Old storehouses along the river's shore at  
Trondheim, Norway

# Technology Review

TITLE REGISTERED, U. S. PATENT OFFICE

Edited at the Massachusetts Institute of Technology

VOL. 59, NO. 6

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*Photograph by Boeing Airplane Company*

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### *Receptive Attitude*



## The Trend of Affairs

### Bohr Receives Atoms for Peace Award

■ Niels Bohr, Director of the Institute for Theoretical Physics at Copenhagen, was named the first recipient of the Atoms for Peace Award, according to an announcement by President James R. Killian, Jr., '26, made in New York on March 13, just as *The Review* goes to press. The award was established by a Ford Motor Company appropriation of \$1,000,000 as a memorial to Henry Ford and Edsel B. Ford, and will be used at the rate of \$100,000 annually for 10 years. The award is made to advance the use of atomic energy for peaceful purposes by granting awards for outstanding contributions in this field.

In making his announcement, President Killian disclosed that a distinguished company of scholars had unanimously selected Professor Bohr to be the first recipient of the Atoms for Peace Award in recognition of his basic theoretical work on the structure of the atom and his clarification of basic concepts of quantum mechanics. Professor Bohr was awarded the Nobel Prize in Physics in 1922.

### Synthesis of Penicillin

■ Chemical synthesis of penicillin, which for years has been one of the most baffling problems in chemistry, has been accomplished at M.I.T. by John C. Sheehan, Professor of Organic Chemistry, and Kenneth R. Henery-Logan, research associate in the Department of Chemistry.

Ten new kinds of the synthetic penicillin are now being tested for possible medical use, Dr. Sheehan said. While the new chemical method probably will not be cheap enough to compete with the established fermentation process by which penicillin is derived from molds, it is hoped that new forms will prove effective against disease organisms now resistant to natural penicillin and against a wider variety of infections. New penicillins might also have less tendency to produce allergic reactions.

The penicillin molecule is not an unusually complex one. Similar molecules, such as those of quinine, morphine, cortisone, and sucrose, had yielded to synthesis. But the penicillin molecule is unstable

and disintegrates easily—especially at one point in the process. Constructing it in the laboratory has been compared to placing an anvil on top of a house of cards. The final step is exceedingly delicate.

During World War II, it is estimated that 1,000 chemists worked in 39 laboratories in the United States and Great Britain in the attempt to synthesize penicillin. One group did succeed in producing a microscopic quantity but the process was not a methodical one and practical production was out of the question. At that time, the structure of the molecule was not even understood.

By 1948, when Dr. Sheehan undertook the task, other chemists had given up and many were skeptical as to whether penicillin could ever be synthesized. He persevered and with the help of graduate and post-doctoral students continued the laboratory work for nearly nine years. Final results were announced in the *Journal of the American Chemical Society* which appeared in March.

The Sheehan process employs novel reactions and technology which are expected to be useful in solving other chemical problems. It consists chiefly of a series of reactions at room temperature or below. The crucial step occurs when a carbon atom is bonded to a nitrogen atom, completing the structure of the final product, phenoxymethylpenicillin, which is known as penicillin V, the antibiotic which is commonly administered by mouth.

The research has been aided financially by Bristol Laboratories of Syracuse, N.Y. Medical research is being conducted by Merck, Sharp and Dohme Research Laboratories at Rahway, N.J., where the 10 new types of the synthetic penicillin were prepared. These types are all antibiologically active and could not have been obtained through the fermentation process. They are being tested on animals.

Dr. Sheehan participated in penicillin research during World War II at the Merck laboratories and was instrumental in devising a practical synthesis of penicillamine, which is a key compound in the synthesis of penicillin. He also has synthesized other compounds which play a part in the final process.

In 1946 Dr. Sheehan joined the M.I.T. Faculty. In 1951, when he was 36 years old, he received the



American Chemical Society Award in Pure Chemistry for his work on penicillin and for his contributions during the war to the development of the Bachmann process for preparing RDX, which is a high explosive.

### Visiting Committee Report on Economics and Social Science

■ The Visiting Committee on the Department of Economics and Social Science\* met at Cambridge and Boston for an all-day meeting on Sunday, March 4, 1956. There were present, for the Committee, Messrs. William A. Coolidge, Clarence D. Howe, '07, Robert D. Patterson, '20, Lloyd G. Reynolds, and James M. Barker, '07, chairman. President James R. Killian, Jr., '26, Vice-president Julius A. Stratton, '23, and Institute Secretary Robert M. Kimball, '33, represented the M.I.T. Administration for all or part of the sessions. John E. Burchard, '23, Dean of the School of Humanities and Social Studies, and Professor Ralph E. Freeman, Head of the Department, represented the Faculty throughout.

The morning session was devoted to presentations by seven senior members of the Department's Faculty who spoke on their individual curriculum responsibilities. Professor Max F. Millikan outlined the activities of the Center for International Studies. The Department's entire Faculty met with the Committee for luncheon at the Faculty Club. The afternoon session included one Faculty member presentation, followed by an executive session of the Committee with the officers of administration and Dr. Freeman. Senior Faculty members and some of the Administration officers joined the Committee at the Algonquin Club for dinner and general discussion in the evening.

The Committee believes that the meeting was productive in that major aspects of the Department's curriculum were discussed by, and with, the Faculty members responsible. This Department is one of the most important at the Institute, and covers a very wide range of economic and related subjects. It is the opinion of the Committee that progress is generally satisfactory.

The Committee listened with especial interest to Dr. Millikan's presentation of the work of the Center for International Studies. This very large operation is not integrated with the Department of Economics, although several members of its staff are also members of the Department of Economics Faculty. Dr. Millikan reports directly to the Dean of Humanities and Social Studies and not to the Head of the Economics Department. In view of the size, importance, and special nature of the Center's activities, the Visiting Committee was unanimously of the opinion that a Visiting Committee for the Center should be promptly designated by the Corporation. Such committee would have as its function a careful review of the Center's work, its accomplishment to date, and

its potential usefulness both to M.I.T. and to the entities which make or might make use of its product. The magnitude and importance of the Center's operations are such that it should no longer be included in the responsibilities of the Visiting Committee on the Department of Economics.

The Committee expresses its appreciation of the help given it by the administrative officers of the Institute, and by Dean Burchard and Professor Freeman and his associates on the Department's Faculty.

The report of the Visiting Committee was reviewed by the Executive Committee on August 30, and by the M.I.T. Corporation on October 1. It was submitted to The Review for publication on October 25, 1956.

### Individuals Noteworthy

■ The first few months of the year brought forth the following promotions, elections, and appointments:

*Raymond H. Blanchard*, '17, as a member of the Corporation of Northeastern University, Boston . . .

*Winfield I. McNeill*, '17, as Vice-president of the newly organized firm of Calkin and Bayley, Inc., New York, industrial consultants . . .

*John M. Campbell*, '25, and *Arthur F. Underwood*, '26, respectively, as Scientific Director, and Manager of Research Staff Activities of General Motors Corporation . . . *Lester C. Smith*, '25, as President of Spencer Turbine Company, Hartford . . .

*James W. Dunham*, '26, as President of Compressed Gas Association, Inc., New York . . . *James A. Merrill*, '30, as Associate Director of Research and Development of the Goodyear Tire and Rubber Company, Akron . . .

*John D. Northup*, '32, as Vice-president of the Mill Division, Owens-Illinois Glass Company, Toledo . . . *Wayne M. Pierce, Jr.*, '37, as Vice-president for Engineering and Manufacturing of Norden-Ketay Corporation, Stamford . . .

*John R. Brown, Jr.*, '39, as Vice-president of Research and Development for Spencer Chemical Company, Kansas City, Mo. . . .

*John G. Truxal*, '47, as Head of the Electrical Engineering Department at the Polytechnic Institute of Brooklyn.

■ Recent honors have been presented to Alumni and members of the Institute's Faculty as listed:

To *Anatole R. Gruehr*, '24, a fellow of the American Institute of Electrical Engineers in recognition of his "application of economic theory to engineering design" . . . to *Ralph H. Swingle*, '30, the Order of Merit for Distinguished Service, from Westinghouse Electric and Manufacturing Company—the company's highest award . . .

To *George E. Valley, Jr.*, '35, the Air Force's Civilian Exceptional Service Award, presented by Donald A. Quarles, Secretary of the Air Force . . .

To *Elias Burstein*, '43, the Annual Award of the Washington Academy of Sciences, for Scientific Achievement in the Physical Sciences for 1956, "in recognition of his distinguished study of impurity levels and effective electron masses in semi-conductors."

\* Members of this Committee for 1955-1956 were: James M. Barker, '07, chairman, Clarence D. Howe, '07, Robert D. Patterson, '20, Harold R. Boyer, '22, William E. Huger, '22, William A. Coolidge, Harry D. Gideonse, Alfred C. Neal, and Lloyd G. Reynolds.

## 100 Per Cent Participation

■ The 321st meeting of the Alumni Council, held on the evening of January 21 at the M.I.T. Faculty Club, marks the beginning of a new era in Council support of Alumni activities. It was at this meeting, over which Theodore T. Miller, '22, presided as President of the Alumni Association, that John W. Kilduff, '18, was able to report that each and every member of the Council had contributed to the Alumni Fund for 1957.

But this news was held for a relatively late portion of the business session of the meeting. First item on the agenda was a report presented by President Killian on a recent study of the Struik case by a committee of the Massachusetts State Legislature. A resolution on the late William A. Ready, '13, for many years a member of the Council, was read by Edward H. Cameron, '13 (chairman of the committee which prepared the resolution), and adopted by silent rising vote of the Council members.

As Secretary, Donald P. Severance, '38, reported: (1) changes in class affiliation for three Alumni; (2) that eight members of the M.I.T. staff and officers of the Association had visited 11 M.I.T. clubs between November 29 and January 17; (3) that the new M.I.T. Club of Peru at Lima had been recognized by the Executive Committee as the 93d M.I.T. Club and the 25th outside the limits of continental United States; (4) changes in new representatives on the Council. As Treasurer for the Association, Mr. Severance reported that the Executive Committee had approved a supplementary budget of \$3,885 to cover equipment required as a result of moving of the Alumni Records Office last summer, contributions to a revised M.I.T. Pension Plan, and printing of Newsletters and folders for Alumni work.

Members of various subcommittees for the 1957 Alumni Day were announced; the total committee personnel is: D. Reid Weedon, Jr., '41, general chairman; David W. Skinner, '23, deputy chairman; *Conference* — Henry B. Backenstoss, '34, chairman, Arthur A. Nichols, '28, Manson Benedict, '32, Edward G. Sherburne, Jr., '41, William R. Jones, '49, J. Peter Anderson, staff; *Banquet* — Dr. Egon E. Kattwinkel, '23, chairman, Percy R. Ziegler, '00, Henry B. Kane, '24, Helge Holst, '31, Claude F. Machen, '31, Mrs. Julius A. Stratton, Miles P. Cowen, staff; *Luncheon* — William L. Taggart, Jr., '27, chairman, Francis B. Kittredge, '21, Glenn D. Jackson, Jr., '27, William H. Carlise, Jr., '28, Fisher Hills, '29, Frederick B. Grant, '39, Raymond R. Richards, '43; *Publicity* — John T. Fitch, '52, chairman; *Reception* — William Morrison (Faculty Club), chairman; *Registration* — Wolcott A. Hokanson, staff, chairman, G. Edward Nealand, '32, Robert E. Hewes, '43.

Chenery Salmon, '26, chairman of the 1957 Midwinter Meeting Committee, spoke briefly on the program for this meeting and urged Council members to make early reservations.

Mr. Miller next called on Mr. Kilduff who had been appointed in October as chairman of a special committee to be responsible for obtaining an early 100 per cent participation in the 1957 Alumni Fund by members of the Council. Mr. Kilduff reported that his committee had been working toward a January

## On the Horizon

*June 10, 1957* — 23d Alumni Day, 1957, M.I.T. Campus in Cambridge.

*September 6-7, 1957* — 2d Alumni Officers' Conference, M.I.T. Campus in Cambridge.

*December 7, 1957* — 11th M.I.T. Alumni Regional Conference, Pittsburgh, Pa.

21st deadline. The goal of 100 per cent participation by the Council was met that very day.

Avery H. Stanton, '25, chairman of the Alumni Fund Board, reported on the response to the 1957 Alumni Fund. On January 21, a year ago, 6,500 Alumni had given \$234,568. On the same date this year 7,550 Alumni had contributed \$280,000. Of the total, about \$50,000 has been designated for the use of scholarships.

The rest of the evening was devoted to the first public showing of a new film, "The Social Beaver," which, as the name implies, depicts the nonacademic aspects of M.I.T. undergraduate life. This film was designed at the request of the Admissions Office for groups of Alumni and prospective students. It was filmed and produced by Oscar H. Horovitz, '22, who has held numerous offices in amateur cinema organizations here and abroad and whose films have won 22 national and international awards. Since the film shows many social and athletic activities new to Alumni, the head table included a panel of experts to give further details and to answer questions. They were: Paul M. Chalmers, Associate Director of Admissions, moderator; John T. Rule, '21, Dean of Students; Frederick G. Fassett, Jr., Dean of Residence; Klaus Liepmann, Professor of Music; and Richard L. Balch, Director of Athletics.

## Appointment in Philosophy

■ Appointment of Hans Meyerhoff as visiting associate professor of philosophy at the Institute for the 1957 spring term was announced late in January. Dr. Meyerhoff will come to M.I.T. from the University of California at Los Angeles, where he has been associate professor of philosophy since 1948.

A naturalized United States citizen, Dr. Meyerhoff was born in Braunschweig, Germany, on December 1, 1914. He received his bachelor's degree from the University of California at Berkeley, and the Ph.D. in 1942 from the University of California at Los Angeles. During World War II he served overseas with the U.S. Army's Office of Strategic Services, and from 1945 to 1948 he was a political analyst for the State Department in Washington, D.C. He has been associate professor in the Department of Philosophy at U.C.L.A. since 1948, except for the fall term of 1955 when he was visiting associate professor in the Department of Philosophy at the University of Michigan.

Dr. Meyerhoff is widely known for his many articles and reviews on philosophy. He is author of *Time in Literature*, published by the University of California Press in 1955, and the *English Version of Plato*.



## Class Reunions in 1957

<i>Class</i>	<i>Date</i>	<i>Place</i>	<i>Reunion Chairman or Class Secretary</i>
1897	June	Boston — Tentative luncheon plans	John P. Ilsley, 26 Columbine Road, Milton 87
1902	June 7-9	Wentworth-by-the-Sea, Portsmouth, N. H.	Burton G. Philbrick, 18 Ocean Avenue, Salem
1907	June 7-9	<i>50th Reunion</i> Oyster Harbors Club, Osterville	Bryant Nichols, 23 Leland Road, Whitinsville
1908	June 7-9	Melrose Inn, Harwich Port	H. Leston Carter, 14 Roslyn Road, Waban 68
1912	June 7-9	Snow Inn, Harwich Port	Albion R. Davis, 11 Vane Street, Wellesley
1916	June 11-12	Chatham Bars Inn, Chatham	Harold F. Dodge, Bell Telephone Laboratories, 463 West Street, New York 14, N. Y.
1917	June 7-9	Wentworth-by-the-Sea, Portsmouth, N. H.	Stanley C. Dunning, 21 Washington Avenue, Cambridge
1922	June 7-9	Sheldon House, Pine Orchard, Conn.	Dale D. Spoor, Apt. 12D, 2440 N. Lakeview Avenue, Chicago, Ill.
			Parke D. Appel, 28 Winthrop Road, Belmont 78
1927	June 7-9	Oyster Harbors Club, Osterville	J. Robert Bonnar, 26 Macy Avenue, White Plains, N. Y.
1932	June 7-9	<i>25th Reunion</i> Baker House, M.I.T., Cambridge	Rolf Eliassen, Room 1-138, M.I.T., Cambridge
1937	June 7-9	The Belmont, West Harwich	Philip H. Peters, 14 Cushing Road, Wellesley Hills
1942	June 7-9	Chatham Bars Inn, Chatham	George J. Schwartz, Doelcam Corporation, 1400 Soldiers Field Road, Boston
1947	June 8-9	Hotel Curtis, Lenox	Martin M. Phillips, 41 Avalon Road, Waban 68
1952	June 8-9	Mayflower Hotel, Plymouth	Nicholas Melissas, Building 32, M.I.T., Cambridge

### Visiting Professors in Civil Engineering

■ Appointment of Laurits Bjerrum and Giulio Pizzetti as visiting professors in the Department of Civil and Sanitary Engineering at the Institute was announced in January.

Dr. Bjerrum, named visiting professor of soil mechanics, has been director of the Norwegian Geotechnical Institute in Oslo since 1951. Born in Farsø, Denmark, in 1918, he was graduated from the Technical University of Copenhagen and received his doctorate at the Federal University of Switzerland. He began his career as research assistant at the Technical University of Copenhagen and then served as foundation engineer with Ostfeld and Jønson, consulting engineers. From 1947 to 1951, Dr. Bjerrum was on the staff of the Institute of Soil Mechanics and Foundation Engineering at the Federal University of Switzerland.

Dr. Pizzetti, an engineer specializing in concrete structures, will work with the Departments of Architecture and of Civil Engineering as visiting professor of structural engineering. He was born in Parma, Italy, and received the degree of doctor in civil engineering at the Polytechnic Institute of Turin, Italy. His teaching career there included posts as instructor in science of constructions, assistant professor, and professor of reinforced concrete. The former director of a firm of building contractors in Buenos Aires, Dr. Pizzetti has also served as professor at the School of Architecture, University of Buenos Aires. He is a member of the Italian National Council of Research and has published many papers on the subject of structures, thin shells, and prestressed concrete.

### Economist Appointed

■ The appointment of economist Evsey D. Domar as visiting professor in the Department of Economics and Social Science at M.I.T. was announced recently. A professor of political economy at the Johns Hopkins University, he will teach at M.I.T. during the 1957 spring term.

Dr. Domar was born in Lodz, Poland, on April 16, 1914. He holds degrees from the University of California at Los Angeles (B.A. 1939), the University of Michigan (M.A. 1941), and Harvard University (M.A. 1943, Ph.D. 1947). He served as economist for the Board of Governors of the Federal Reserve System in 1943-1946 during World War II, and was assistant professor at Carnegie Institute of Technology in 1946-1947. Dr. Domar was assistant professor in the Department of Economics at the University of Chicago during 1947-1948 before joining the faculty at Johns Hopkins, where he was associate professor in 1948-1955, and became professor of political economy in 1955.

In recent years Professor Domar has also been visiting lecturer at the University of Buffalo, for the February, 1949, term; visiting associate professor at Columbia University's Russian Institute in 1951-1953 and 1954-1955; and lecturer under a Fulbright award at Oxford University in 1952-1953. Since 1954, Dr. Domar has been consultant to the Foreign Study and Research Fellowship Program of the Ford Foundation.

He is author of more than a dozen papers on economic theory and practice. His book, *Essays in Economic Growth*, will be published by the Oxford Press in the near future.



M.I.T. Photos

For the first time the Fund Board of the Alumni Association was host to 50 members of the Class of 1960 to whom Alumni Fund scholarships were awarded for their freshman year. The dinner meeting in the Campus Room of the Graduate House was attended by about 30 Technology Alumni interested in student affairs. Among those present at this dinner were (standing, above, left to right in column two): Avery H. Stanton, '25, chairman of the Alumni Fund Board; Henry T. Perkins, '60, Penobscot, Maine; George D. Giffin, '60, La Canada, Calif.; Lawrence G. Rose, '60, Hialeah, Fla.; Charles W. Bolz, Jr., '60, Everett, Wash.; and Theodore T. Miller, '22, President of the Alumni Association.

Also present at the Alumni Fund scholarship dinner (above, at left, in clockwise order from center opening) were: Norman B. Thayer, '60, Manchester, N.H.; Richard J. Northrup, '60, Mt. Morris, N.Y.; David A. Aaker, '60, Fargo, N.D.; Thomas P. Pitré, Associate Dean and Director of Student Aid; J. Samuel Jones, Assistant to Director, Student Aid; and Gerald M. Litton, '60, Phoenix, Ariz.

## Alumni Fund Scholars Dine

■ The Alumni Fund was host to 50 members of the Class of 1960 at a dinner meeting held at the Graduate House on March 4. The freshmen were those awarded Alumni Fund scholarships for their first year of study at M.I.T. as the result of action taken last year to set aside a portion of the Alumni Fund for freshman scholarships. Good fellowship was the order of the evening.

About 30 Technology Alumni or staff members mingled with the 50 students. Theodore T. Miller, '22, President of the Alumni Association, made brief remarks regarding the Alumni organization and its freshman scholarships. Others who spoke at the dinner included Avery H. Stanton, '25, chairman of the Alumni Fund Board, and Thomas P. Pitré, Director of Student Aid. Eugene W. Boehne, '28, Professor of Electrical Engineering, entertained the group with puzzles in mathematics and logic.

## Visiting Committee Report on Chemistry

■ It has become apparent that, as a profession, chemistry is attracting fewer undergraduate students at colleges and universities. In 1950, for example, about 3,300 students were awarded the bachelor of science degree in chemistry in the United States. By 1954, this figure had dropped to about 1,800. For M.I.T. the falling off since 1950 corresponds roughly to the national average. It seemed to the Visiting Committee on the Department of Chemistry,\* meeting at M.I.T. that it would be appropriate to devote their meeting on March 2, 1956, to a consideration of ways and means of increasing the attractiveness of chemistry as an undergraduate discipline. It was concluded that major attention might well be directed to the content of the course in freshman chemistry since it is presumably during this first year of study at the Institute that chemistry majors are either created or discouraged.

During the morning session, Professor Arthur C. Cope, Head of the Department of Chemistry, arranged for presentation by a number of young members of the Department staff, all of whom had come to

M.I.T. from other institutions within the past few years, and all of whom were engaged in teaching freshman chemistry. Their discussions were most stimulating, and gave every indication of thoughtful analysis of ways and means of improving the first year curriculum.

The point was made that the thoroughness and excellence of the chemistry course received by freshmen at their high schools had little to do with their performance at M.I.T. On the average, even those students who had had no previous instruction in chemistry "caught up" with their better-trained associates by the end of the first semester. This would appear to indicate that the caliber of high school chemistry instruction may be important in encouraging young men to consider chemistry as a vocation, but is not a significant influence on their performance at M.I.T.

A system has also been successfully introduced which involves setting up special sections in which instruction is at a somewhat higher level. Enrollment is voluntary, and selection of candidates is made on the basis of high scholastic performance. This system appears to give a needed outlet for brilliant students who can, by joining the special sections, receive instruction which is a greater challenge to them and which could certainly be expected to increase their interest in chemistry as a vocation.

(Concluded on page 312)

\* Members of this Committee for 1955-1956 were: Crawford H. Greenewalt, '22, chairman, Godfrey L. Cabot, '81, Robert L. Hershey, '23, Eger V. Murphree, '23, Charles A. Thomas, '24, Joseph R. Stevens, '30, M. Gilbert Burford, William M. Holaday, and Harold A. Iddles.



■ The Institute adopted a new plan of administrative organization whereby Vannevar Bush, '16, Professor of Electric Power Transmission, was elected vice-president and dean of engineering; and Professors Samuel C. Prescott, '94, Head of the Department of Biology and Public Health, and William Emerson, Head of the Department of Architecture, became, respectively, dean of science and dean of architecture.

In announcing these appointments, Dr. Compton described the new plan as follows:

"The subdivision of the Institute, for administrative purposes, into the School of Engineering, the School of Science, the School of Architecture, the Division of Humanities, and the Division of Industrial Coöperation, recognizes the five major aspects of its work. The three schools comprise those departments of study in which degrees are given, whereas the two divisions are essentially 'service' divisions. That of the Humanities is designed to give our students that further cultural training and background which we deem an essential part of a well-balanced training. The Division of Industrial Coöperation is designed to make as effective as possible the assistance which the Institute renders to business and industry in solving their technical problems. While the outstanding position of M.I.T. in the field of engineering education is generally recognized, its equally strong position in science and architecture is probably not so widely known, since these activities are not explicitly indicated in the name of the Institute.

*Conferring under the portrait of George Eastman, Technology's benefactor, are Vannevar Bush, '16, and the late President of the Institute, Karl T. Compton.*



► S. C. Prescott, '94



◄ William Emerson



"An important feature of this new organization is the explicit recognition of the Graduate School. The Institute has awarded approximately one-third of all the advanced degrees in engineering given in this country, and in certain departments, notably in chemical engineering, electrical engineering, and aeronautical engineering, approximately one-half of all the advanced degrees. With every indication that this feature of our work is becoming relatively more important, it has seemed advisable to provide adequately for its recognition and constructive administration.

"Although thus divided into these schools for the purpose of administrative responsibility, the Faculty as a whole will continue to be the final authority."

. . . It was announced in The Review that "the individual minute droplets of which fog is composed have been measured and photographed for what is believed to be the first time in the Institute's research station on the estate of Colonel E. H. R. Green at Round Hill, Mass., according to Professor Edward L. Bowles, '22, Director of the Station. . . The measurements and photographs were made by Henry G. Houghton, Jr., '27, a research assistant, who with Dr. Julius A. Stratton, '23, has made a comprehensive study of various kinds of fog."

. . . Congratulations were being extended to Frederick W. Barker, '12, upon becoming Vice-president of the First Trust and Deposit Company of Syracuse, N.Y.; and to Albert F. Hegenberger, '17, upon his promotion to Captain, Air Corps, U.S. Army. As a first lieutenant on June 28-29, 1927, with Lieutenant Lester J. Maitland, he had made the first non-stop 2,400-mile flight from San Francisco to Honolulu; in World War II he became a Major-General.

## From High School to Executive Development

■ As has been customary for a number of years, two addresses were given at the conclusion of the business portion of the 322d meeting of the M.I.T. Alumni Council, held at the Faculty Club on February 25. First of the two speakers at this meeting was Bruce F. Kingsbury, 2-44, Executive Secretary of the M.I.T. Educational Council, whose topic "Long-Range, Grass Roots Promotion" dealt with the aid which selected Alumni are giving, in the field, to high school students desiring to study at the Institute. The second speaker was Howard W. Johnson, Associate Professor of Industrial Management and Director of the Executive Development Programs, whose topic was "An Evaluation of Executive Development Programs." In a sense, therefore, this Council meeting dealt with a range of topics from the high school student to the business executive.

Mr. Kingsbury described the purposes of the Educational Council and some of the ways it serves the Institute. Basically, the object of the Council is to provide M.I.T. with more well-qualified students. To achieve this goal most of the efforts of the Council are directed at the high school teachers and, in particular, the persons in the high schools designated as guidance counselors or college advisers.

Since 1931 "Ambassadors of M.I.T.," called Honorary Secretaries, have been appointed for the purpose of representing M.I.T. in their communities. For years this took the form of interviewing prospective freshmen, representing the President of M.I.T. at local college events, and occasionally seeking contact with secondary schools.

In 1951 this group was expanded into the Educational Council, a more formal organization to carry out active, yet moderate, public relations with secondary schools, students and parents, teachers, and others concerned with guiding future collegians.

The Educational Council is organized on a geographical basis. Usually an alumnus is assigned to one or two high schools in his area. He is expected to visit these schools occasionally, which know of his selection from a letter from M.I.T.'s president.

Each Council member seeks to develop a friendship with the principal in small schools or with the director of guidance or a teacher in the larger schools. He makes himself available to answer questions about M.I.T., offers to talk with groups of students about the Institute or about science and engineering education in general, arranges plant visits, offers to talk about his profession or gets specialists to cover a certain field, represents M.I.T. at the school's annual career day, and assists our Admissions Office school visitors on their annual circuits. Otherwise, many students are dissuaded from making application to the Institute by persons who are largely ignorant of schools like M.I.T. There are currently 700 members of the Educational Council. Thirteen hundred high schools are now represented. Last year the Admissions Office referred over 5,000 potential applicants to members of the Educational Council — over 3,000 of these were actually interviewed by the Educational Counselors.

Professor Johnson pointed out that most of the training and development of an executive takes place within the company itself, but a portion of the job can properly be assigned to the universities. He referred to three areas of growth for the executive. Development of "know-how"; the ability and incentive to run business, and to make money doing it, can be developed within the company and by the man himself. The area of leadership, or the ability to motivate others to take action to reach a particular goal, is an area in which the university can make significant contributions. The third area, a development of a knowledge and understanding of the business environment, the industry as a whole, its history, and the labor and national and international ranges of effects on the business is very difficult to achieve within any company. Here the university can make the greatest contribution and here is where the company programs do their poorest job. Professor Johnson discussed in detail what M.I.T. is doing in executive development programs: the Sloan Fellowship Program which is the oldest E.D.P. in the country. The second program he described is one which began just last year, a 10-week program for senior executives on a vice-presidential level.

Prior to these two addresses, the business portion of the meeting (at which Past President Dwight C. Arnold, '27, presided in the absence of President Theodore T. Miller, '22) was opened at 7:40 P.M. with approval of the minutes of the January meeting.

As Secretary-Treasurer of the Association, Donald P. Severance, '38, reported that: (1) the Executive Committee had voted approval for change in class affiliation of five Alumni; (2) visits to eight M.I.T. clubs and two Regional Conferences were made by 22 members of the Council or M.I.T. staff since the last Council meeting; and (3) the conferences in Tulsa and Chicago (please see pages 302, 303) had been unusually successful.

The names of candidates from Districts 3, 6, and 7, as nominees to serve on the National Nominating Committee were read by Mr. Severance. Candidates of classes whose numerals end in 3 or 8 to serve on the Alumni Council for a five-year term were also announced.

As chairman of the National Nominating Committee, Horatio L. Bond, '23, reported nominations of officers for the Alumni Association as recorded on page 237 of the March issue of *The Review*.

D. Reid Weedon, Jr., '41, chairman of the Alumni Day Committee, announced that all events would be held on the M.I.T. campus on Monday, June 10; that the Karl Taylor Compton Laboratories are to be dedicated on Alumni Day; that guests will be able to visit the nuclear reactor which will then be under construction; that a symposium will be held in the morning; and that the pre-banquet social hour, banquet, and performance of Boston Pops Orchestra (with Arthur Fiedler conducting) will conclude events of Alumni Day.

Henry B. Kane, '24, Director of the Alumni Fund, reported that 8,840 Alumni had contributed \$402,555 to the Alumni Fund for the current season. Corresponding figures for the same period, a year ago, were 8,100 Alumni who contributed \$345,000.



## Professor of Philosophy

■ Appointment of Huston Smith, now on the faculty at Washington University, St. Louis, as Professor of Philosophy at the Institute was recently announced.

Dr. Smith will be the first professor of philosophy at M.I.T. since the early days of the Institute, according to Professor Howard R. Bartlett, Head of the Department of Humanities. His appointment will greatly strengthen the program offered by the new combination majors of Humanities and Science and Humanities and Engineering.

The son of missionaries, Dr. Smith was born in Soochow, China, and he went to high school in Shanghai. He was graduated from Central College in Missouri and received his Ph.D. from the University of Chicago. His special field is philosophy of religion. He was lecturer at the University of Colorado and, in 1946-1947 was director of religious activities at the University of Denver before going to the Washington University faculty in 1947. He also taught at the Iliff School of Theology in Denver.

## Dendrochronology

■ By methods established long ago but recently improved, it is now possible to date, exactly, prehistoric remains of human culture extending back into the pre-Christian era, so long as they include some wooden construction. These methods are based on the following facts:

1. In some areas, thickness of annual growth rings of local trees is governed by a single limiting environmental factor. In dry regions this factor is total rainfall; in cold regions it is mean annual temperature.

2. Hence the sequence of thick, thin, and medium-sized rings in the trees of a given locality reflects fluctuations of climate, and forms a recognizable pattern for any particular sequence of years.

3. There are now living trees as old as 700 years, and cross sections of the annual rings of these trees may be taken without harming the trees.

4. Wood has generally been used as a construction material by man, ancient as well as modern.

5. Tree-ring dating may be tied in with the dating of organic materials by measurement of the degree of decay of  $C^{14}$ , the radioactive isotope of carbon. This method provides approximate dates from about 300 years to about 300 centuries in the past.

The tree-ring dating methods have led to a spate of polysyllabic coinages based on the root *dendro*, meaning "tree." Thus *dendrochronology*, based on *dendroclimatology*, makes possible *dendroarcheology*.

How dendrochronology works may be demonstrated by a hypothetical example. Let us say that an old living specimen of a tree species having wide annual ring variation is sampled by means of a tool, like a laboratory cork borer, that extracts a long thin rod of wood, crossing all of the annual rings and extending from the bark to the center of the tree. This tree is found to be seven centuries old; hence its rings reflect annual variations in climate from 1957, the year the specimen is taken, back to 1257, when the tree sprouted. Now, a large beam of the same wood is sought in old houses built in early Colonial times. One is found; and let us say that this wood

likewise has about 700 annual rings. There is no way of knowing offhand exactly when this tree was cut. But its precise age may be found by matching its rings with those of the living tree, because the outer rings of the house beam span the same years and hence reflect the same annual climatic variations as the rings laid down about halfway through the life of the living tree. Once the old house beam is dated, its rings would then provide a calendar extending back to the Eleventh Century. If now, wood can be found in pre-Columbian Indian remains, with outer rings matching inner rings of the wood from the old house, the precise year the Indians cut this wood may be determined.

If *very* early wooden beams are discovered, pre-dating the time scale worked out by overlapping tree rings coming forward to living trees, it may be possible to establish a new approximate base by means of radioactive carbon dating, and then to work both forward and backward from there.

The American Southwest is a particularly favorable site for application of dendrochronology. It is a relatively dry region with annual fluctuations in rainfall that show plainly in the tree rings. This area is forested with conifers, trees whose annual ring size is strongly influenced by moisture fluctuations, that survive to great ages, and that are not apt to be injured when penetrated by a sample boring tool. Early Indian remains, many including extensive wooden construction, abound in this section.

The precise dating of prehistoric Indian pueblos in the southwestern states, some of them going back to B.C. times, is a fascinating yarn of methodical, patient study. For over a decade, recent time scales were slowly built up, based on living trees and beams from houses constructed since the coming of the white man. Also, disjointed ancient time scales were established with wood from prehistoric Indian dwellings. Gradually the ancient ring patterns were inter-related, but still did not indicate actual dates because they were not tied to the modern calendar. This work, it should be noted, was done in the 1920's, before radioactive carbon dating methods were available.

Then, in 1929, beams were found that bridged the gap, tying the ancient wood into a time scale based on the modern calendar. Thus precise dating of scores of Indian ruins in the Southwest was achieved. For example, construction in Mummy Cave in the Navaho Indian Reservation, Ariz., was dated in the First Century A.D. A Douglas fir beam in this ruin was found to have been made from a then old tree that flourished before the dawn of the Christian era; to be precise, it sprouted in the year 59 B.C. The rings of this wood provide a clear record of annual rainfall variations in this area from 59 B.C. onward. Thus a base is now available for dating of fir wood remains, from the first half century B.C. up until the present day.

Although the American Indian remains just mentioned are by far the oldest precisely dated human construction known anywhere in the world, dendrochronology has been successfully applied to the dating of ancient wooden construction by man in Alaska, Norway, Sweden, and Germany. Clearly, dendrochronology has become a powerful tool of the archeologist.

# Evolution in the Communist World

**When the day of freedom for Russia and the peoples under Soviet rule may come, no one can prophesy. But when it comes, it will be the proudest day in Russian history**

**by ALLEN W. DULLES**

**I**T is a great pleasure to have this opportunity to meet with the Mid-America Conference. Its sponsor, M.I.T., is playing a central role in the shaping and maintaining of America's scientific genius. Like our country, which it serves so well, M.I.T. has made important and dramatic forward strides in the past half century.

Winston Churchill, at a convocation of this Institute eight years ago, spoke admiringly of M.I.T.'s resolution to maintain a faculty of the humanities. Your fruitful contacts with so many foreign students and scholars and your launching of a Center for International Studies are further examples of a broad and imaginative approach to the place of technology in the modern world.

There have indeed been many changes since those earlier days when M.I.T. was a small institution on Boylston Street, Boston. America then was a young nation relatively free of the troublesome concerns of world politics. But times do change; and we in this country have never shrunk from the challenge of changing conditions.

In fact, having generally accepted the idea that we live in a world of change, it is perhaps rather surprising that we have been somewhat slow to recognize that this principle also applies to political and social life in the Communist world.

We ascribed to Hitlerite Germany a political solidity which it never had though it took a world war to prove this. Today many of the experts on Soviet and satellite problems have been forced to revise their calculations and pay closer attention to new forces within the Communist world which have been dramatically revealed during the year 1956.

When Khrushchev denounced Stalin a year ago, he said those fatal words which destroy faith and which once said can never be explained away. The flood of self-questioning let loose by the Anti-Stalin crusade has plumbed the depths of doubt about the integrity of the Communist political structure. When history is written, the Khrushchev statement of February, 1956, may well be described as the Kremlin's admission of the general crisis of Communism.

## **Stalin's Legacy**

Stalin died in March, 1953, leaving one of the most reactionary, despotic police states the world has ever known. He had given himself a name which meant

steel. He expressed his views in a journal named *Truth*. He had concentrated more power in his own hands than had been commanded even by his own great historical idol, Ivan the Terrible. For nearly 30 years he had exercised arbitrary rule over his own and many other peoples. He had killed most of his friends, and transplanted or annihilated innumerable people.

The prospect of ruling this leviathan without Stalin awed his successors. Indeed the official announcement of his death spoke of the need to "prevent any kind of disorder or panic." This defensive note on the

*The sturdiness of this old door is indicative of the strength and endurance of the early settlers of our country who coped with the physical hardships of their day — a distinct contrast to the complex sociological and political problems, such as communism, which face their heirs of the Twentieth Century.*

*Joe Clark from Black Star*





part of the heirs to a seemingly all-powerful state may have been the first of the many hints we were to get of the complexity of the problems faced by Russia's new rulers.

The evolution of the U.S.S.R. over the last four years can be explained in terms of the new Soviet leaders' response to three main problems: problems with themselves; problems with their own and subject peoples; and problems with the outside world.

### A Problem within the Leadership

The first problem that the new leaders faced was an elementary one: that of clearly re-establishing their ultimate authority. This is no simple problem in a revolutionary regime with no roots in either historical traditions or popular consent. Dictatorships are rarely transferable or inheritable, and Stalin, like most dictators, made no provision for the succession. He had been busy playing his lieutenants off against one another; he appears to have had no real number 2 man — just a group of number 3 men.

This group set up an uneasy oligarchy, the so-called "collective leadership." Shortly they agreed to get rid of Stalin's Police Chief, Beria, and mitigated some of the worst excesses of his secret police system.

But these very changes were only to help bring to the surface internal problems that had been artificially suppressed during the Stalin era.

### A Problem with their Peoples

One of these problems was that of restoring initiative and enterprise to a people numbed by long years of discipline and fear. Little Stalins had set themselves up at the local level throughout Russia, and the satellites, and people everywhere in the Soviet sphere had decided to play it safe.

Thus, while the "system" may have been functioning satisfactorily in terms of the relative increase in industrial production, it was slowly running out of steam. Having let up a little on the stick of the secret police, the oligarchy tried to budge the populace with a carrot.

In the economic sphere, this "carrot" took the form of the so-called "new course" announced by Malenkov in the summer of 1953. This policy promised to give greater attention to the manufacture of consumer goods, which had long been subordinated to the basic Soviet emphasis on heavy industry.

In the intellectual sphere, a prominent Soviet writer called for a new turn to "sincerity" in literature. Writers and artists began to speak of a "thaw" as arrests ceased within their ranks and long-imprisoned artistic and literary figures trickled back from Siberia. The leaven of mass education was beginning to work; and while this paid off handsomely in the field of technology, it had other consequences which proved most unwelcome to the worried men in the Kremlin.

The regime soon found that use of the carrot had to be checked. In the months leading up to the Writers' Congress of December, 1954, attempts were made to reassert the Communist Party's right to regulate art and literature; and Khrushchev reasserted

the primacy of heavy industry at the time of Malenkov's demotion early in 1955.

However, the Soviet leaders discovered that they could not go back all the way to conditions as they had prevailed under Stalin; for they found themselves faced with the most serious of all challenges to a totalitarian regime, the revolution of rising hope and expectations. When a tyrant gives real hope to the oppressed, then, in the long run, the position of tyranny as a system tends to become hopeless.

Rising expectations were most serious and hardest for the U.S.S.R. to control on the periphery of Stalin's empire in the East European satellites. The new economic course was taken farthest in Hungary under Imre Nagy in 1953-1955; Hungary went considerably beyond the Soviet Union in playing down heavy industry in favor of consumer goods, and even de-emphasized one of the most hated of all Stalinist exports, the forced collective farm.

Meanwhile, writers in Poland as well as Hungary were going farther than their Soviet counterparts in voicing the pent-up feelings of their countrymen.

Of special importance was a poem which became a *cause célèbre* behind the iron curtain, "A Poem for Adults," by the Polish poet, Adam Wazyk, which was published in Poland in August, 1955. Wazyk spoke with the scourging hate that both writers and ordinary people were coming to feel toward the hypocrisy of their Communist overlords. He recalled how a forerunner of Marx:

... charmingly foretold  
that lemonade would flow in seas.  
Does it not flow?  
They drink sea-water,  
crying  
"lemonade"  
returning home secretly  
to vomit.

These were ominous rumblings. They can be read in retrospect as harbingers of the great upheavals in Poland and Hungary. However, the problem of rising expectations was a common problem throughout all the lands which Stalin had ruled. Indeed, popular expectations proved far in front of the policies of the reactionary regimes administering Stalin's colonial empire.

### A Problem with the Outside World

Throughout all their troubles, Communist politicians have to continue believing that they are riding the wave of the future. The expectation of the Communists continues to be, as Khrushchev recently put it, that "we will bury you," — the "you" being the Free World. Nevertheless, Khrushchev appears to have concluded that Stalin's policies had ceased to be profitable; that, so to speak, our "burial," the predicted doom of capitalistic society, was being unnecessarily delayed.

To shift the metaphor a little, Stalin had been piled up on the line of scrimmage in Korea, as he had been earlier in Greece and Berlin. The new quarterback was deciding that instead of continuing to run line bucks, he should try a few end runs, reverses, and forward passes to test the enemy's secondary. Ac-

cordingly, the Soviet leaders finally agreed to a truce in Korea and took a compromise settlement in Indo-China.

When menacing threats of the Stalinist variety failed to prevent a continued growth in free world unity — evidenced by the further consolidation of the North Atlantic Treaty Organization and the adherence of West Germany — the pressure increased for drastically new tactics.

### The Smiles Campaign of 1955

Thus, beginning in the late spring of 1955, the Soviet leaders launched their famous "smiles" campaign. In a remarkable series of policy reversals, they sought to dispel the evil image that the world had acquired of the U.S.S.R. and to win new friends and the ability to influence people abroad.

They agreed to an Austrian peace treaty; began to court Tito with an elite pilgrimage to Belgrade; relinquished their Porkkala base in Finland; and struck friendly poses — with Molotov waving a cowboy hat to American photographers and Khrushchev and Bulganin posing smilingly at the Summit Conference at Geneva.

In a second round of activity later in the year, the Soviet leaders began to deliver economic and military aid to non-Communist states; stepped up their public relations campaign with a trip to India and Burma; and stopped their monotonous vetoing of new members' applications to the United Nations.

The Soviets seemed to be making some progress with their new policy as 1955 went into history — even though their stand at the Foreign Ministers Conference in the autumn of 1955 made it clear that they did not intend to budge on basic international issues.

As it turned out, however, these smiles and concessions may have cost the Soviet leaders dearly; for, if they did mislead some people abroad, these actions continued to feed rising expectations in the far-flung Soviet empire.

### The Two Great Events of 1956

Two great events in 1956, deeply affecting the Communist world, followed from the new Soviet domestic and foreign policies. The first was the attempt to persuade the leading communists in the U.S.S.R. and the satellites that the Soviet leaders had really broken with the dreadful past of the Stalin regime. The second was the attempt by Poland and Hungary to secure the freedoms which they felt were implicitly being promised them by Moscow.

Although Stalin's heirs had downgraded his importance fairly consistently since his death, Khrushchev's secret revelation of Stalin's crimes at the Twentieth Party Congress in February, 1956, represented a real turning point. These revelations destroyed the myth of infallibility of the Soviet system and its leaders. It was this belief in infallibility, which — however wrong — had inspired the faithful and given them the courage to sacrifice everything, including common sense and their very lives to advance the cause of Communism.



F. S. Lincoln, '22

*Silhouetted against a burst of light is this rugged transmission tower of the Long Island Lighting Company in Port Washington, Long Island, New York. Power is conveyed from the plant at Glenwood Landing, near Glen Cove, New York, on Long Island.*

Many questions — including the obvious one of "where were you, when all this was going on?" — continue to be asked in the Soviet Union. Stalin's heirs had been morally compromised. The ideological foundations of this secular religion had been seriously shaken.

The circumstances surrounding the Khrushchev secret speech remain a mystery to this day. It was delivered at an unexpectedly summoned meeting of the Twentieth Party Congress attended by the 1,400 members from the U.S.S.R., but with the exclusion of visitors and delegates from the rest of the Communist world. Apparently it was felt that it was too heady medicine for the Soviet people, since the secret speech has never been published in the U.S.S.R. and only small parts of it have been allowed to creep out in the Soviet press, though copies of the speech were distributed among Soviet and satellite leaders.

It is hard to understand the Kremlin's apparent failure to assess accurately the damage to their position from the publicity which the speech would eventually receive. Some very impelling domestic reason must have made them take the calculated risk they assumed. Possibly they felt that such a thorough denunciation was required if initiative was to be liberated from the pall of fear at home, and if the image of the U.S.S.R. abroad was to be brightened.

The second event unsettling the Communist world in 1956 was, of course, the uprising in Hungary and Poland. When the Soviet leaders made their peace with Tito in June, 1955, they implicitly recognized, as Stalin never had, that genuinely different national paths were permissible within the Communist world. This idea was given some encouragement at the Twentieth Party Congress, which urged Communist Parties to use different, perhaps peaceful, rather than violent, means in seeking to gain power in non-Communist states. During the state visit of Tito to Moscow last June, the Soviet leaders formally recognized the validity of different paths of socialist development. But no sooner had they done this, than



the people in Poland and Hungary began to demand the right to determine their own destinies. Hardly had Tito returned home, when the workers in Poznan rose up to demand "bread and freedom."

The contagion spread to Warsaw in spontaneous meetings of workers and others who demanded an end to Soviet rule. In Hungary the people went even further in their assertion of complete independence of Moscow.

Throughout the summer Soviet policy zigged and zagged. When they were confronted with the events of late October, the Soviet leaders acquiesced reluctantly to some important changes in Poland, and temporarily appeared to do the same in Hungary before falling back on cruel repression. Through it all, the Soviet Union was discredited internationally; and no non-Communist was left to justify the savage slaughter of the heroic Hungarian people. Small nations in Asia, which are special targets for Communist blandishments, recognized the moral of Hungary; and young countries like Burma, Nepal, and Laos voted for condemnation of the Soviet Union.

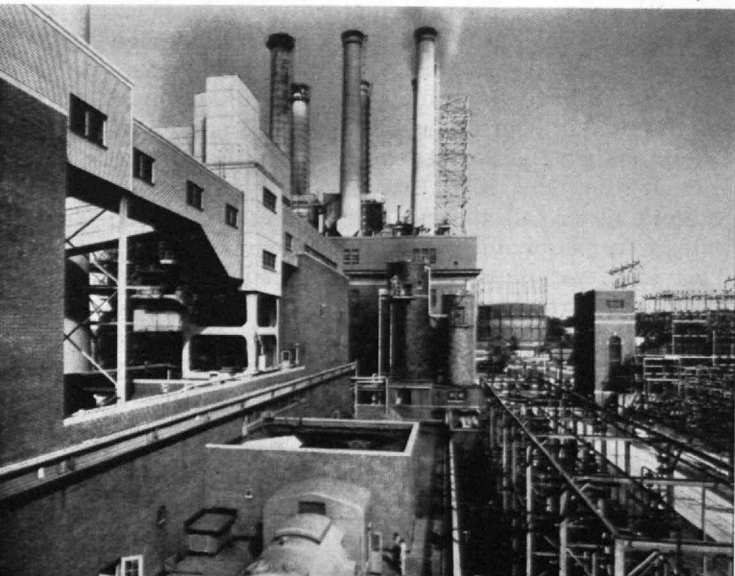
In the face of these events, the Khrushchev position of trying to take bits and pieces of both a Stalinist and a non-Stalinist policy became increasingly untenable. If the Soviet leaders want to increase productivity and initiative they have to lift controls still further. If they want to improve their reputation abroad, they cannot continue to act as they are doing in Hungary. But, if they go too far in conciliating the people, they fear for their own positions.

#### Stirrings in the U.S.S.R.

There are stirrings in the U.S.S.R. as well as the satellites. Pressures for change appear to be coming from industrial managers and professional classes, who seem anxious to gain a greater share in running the economy. These groups appear to have increased their responsibility at the expense of professional

*Symbolic of the American system of free enterprise and individual initiative is the power plant at Glenwood Landing, Long Island, whose operation and maintenance is dependent on the technological and engineering skills of men who have been permitted a freedom of choice in their education and later in their industrial pursuits.*

F. S. Lincoln, '22



party administrators in the recent reshuffling of the planning apparatus.

Perhaps even more disturbing to the Soviet regime are the rumblings of discontent which involve the very groups which Communism claims to favor: the workers and the students.

From the workers in the U.S.S.R. there have been growing indications of discontent in the past year, including several strikes and strike attempts, and demands to know more about the patterns of worker administration and control which have come into being in the Polish workers' councils.

Even more important, perhaps, is the increasing unrest among the students; which has been evidenced in riotous meetings and illegal handbill-type journals. The regime has staked much on its appeal to youth and the "new Soviet intelligentsia" which it hoped years of careful indoctrination would produce. But it has found that, in educating large numbers of youths to fill the positions required for the administration of a large modern state, it has taught people to think and ask embarrassing questions for themselves.

The youth in the Soviet Union are suffering from boredom with the drabness of their system. This discontent cannot very logically be dismissed as a "holdover from the past"; and the regime cannot dismiss it all as "hooliganism" — the Soviet version of juvenile delinquency.

Student unrest in the U.S.S.R., like recent events in Poland and Hungary, shows what many of us seem to have forgotten: that the love of freedom has deep roots. The bravery of the youth in Budapest, who had known only totalitarian rule, serves as a reminder that modern weapons do not provide the final answer to moral forces.

There are numerous signs in Soviet intellectual life that this human desire for individual integrity and free expression is making itself felt. The major Soviet journals in the fields of history, philosophy, and literature have all come under official Communist Party censure recently for deviations from the party line. There has been a revival of interest in long-neglected writers including Dostoevskii, whose major writings had been taboo under Stalin. Probably the most widely discussed single book in Russia today is a new novel with the distinctly non-Communist title of *Not by Bread Alone*.

The hero of this novel is a persecuted inventor who succeeds not because, but in spite of, the system. A true individualist, he refuses to be bought off at the end by the very men who had sent him to Siberia on trumped-up charges. He hangs on them the label of "*meshchanskii* (middle class, philistine) communist," thus bringing back to the Russian vocabulary a traditional adjective of abuse from Tsarist times.

There is no pattern to tell us precisely how this intellectual ferment may affect the political development of a modern totalitarian and technocratic state. But it is doubtful indeed that these pressures for change can be satisfied merely by Khrushchev's combination of limited reforms and exhortations to observe party discipline. In particular, the disaffec-

*(Continued on page 322)*



# Technology Shapes Our Future

**An inherent characteristic of technology and professional management is that they impose upon society a relentless requirement for more skill, talent, and breadth of understanding**

by JAMES R. KILLIAN, JR.

**T**HE social changes we are witnessing in the world today have been aptly described as the "revolution of rising expectations." In the United States, but more particularly in the "have-not" or less industrially developed parts of the world, there is a consuming desire to achieve a higher standard of living and a better life.

This revolution of rising expectations stems in great measure from technology — from the industrial advance in Europe, America, and now Russia, and from the evidence that science has the capacity to create new wealth from nature as exemplified in these highly industrialized societies. Rising expectations are a natural reaction to the accelerating, on-rushing stream of modern technology — and I define technology as the application of science to useful ends, whether it be for curing disease, or for building a better environment, or for creating a new industrial product.

It is this on-rushing, exponential, rising-expectation characteristic of our present-day technology which is one of the most striking features of our world today. Everywhere we see the transforming effects of this rate of change phenomena on people, their way of life, their outlook and hopes, their standard of living.

Our familiarity with the indices of change hardly reduces our fascination in what they report. Recall, for example, what is happening to the length of our days and the numbers of the family of man. Thanks to better medicine and better environment, as George R. Harrison, Dean of the School of Science, has pointed out, every baby born today, on the average, will have twice as many days of life as a baby born at the time of the birth of our country. More years have been added to our life since I was born than during the preceding thousand years.

It has been estimated that the world's population 200 years ago totaled about 700,000,000. The estimate for today places it in excess of two and a half billion, and for 1980, a total has been projected of over three and a half billion. Today about 34,000,000 people are added to the population of the world every year, and the rate of increase seems to go up every year. The population of the United States, it is estimated, will increase 55,000,000 over the next 20 years.

Recall also our accelerating use of energy. Professor Harrison Brown has estimated that between 1900 and 1950, the U.S. energy demand rose nearly 20 per cent every 10 years, that in the years 1940-1950, it

increased 50 per cent, that by 1975 it may well be 60 per cent or more above 1950. Another forecast of energy requirements concludes that in 2050, the annual power input required by the world may be about 30 times what it is now.

Along with this unexampled growth in the use of energy is an equally unexampled use of industrial raw materials, which in 1950 had grown to 18 tons for every man, woman, and child in the United States. This represents quite a lot of material to shovel!

Of course our energy demand is not unrelated to our increasing productivity and standard of living, and both are affected by technology. In the past three years, for example, the productivity per man-hour has risen from 3 to about 5 per cent, and the nation has achieved a current rate of productivity equivalent to a gross national product of over \$400 billion — a level achieved much earlier than was predicted.

However illuminating and confirmatory such statistical evidence may be, we do not require a statistical abstract to show the changes we are experiencing. We do need to look behind the figures and the experiences to understand the nature of the changes and to try to see where they may be leading us. In a recent article, Eugene Holman aptly described our material progress as a stairway of advancement with progressively higher risers and narrower treads. Some observers are speculating as to whether our long ascent up this stairway is lifting our society to a new upper story of living; whether, in other words, our society may be approaching the "threshold of abundance" — a transformation of new embodiment, representing a new order of creativity, when man can achieve a new level of fulfillment for himself, and the earth be made to yield a sufficiency for all its people. Still others liken the advancement of our society to pulling out a sticky drawer. We pull at one corner only to have it stick on the other side, but as we alternate pulls, it comes out, giving on one side or the other. All of us recognize the possibility of our progress getting stuck at one corner from time to time, but most of us believe that it can be unstuck — provided we do not suffer the total catastrophe of total nuclear war.

I do not suggest that we have any warranty, expressed or implied, that progress is inevitable or immutable; I only describe the long-standing American belief that progress, even though it goes by fits and starts, is an achievable and worthy goal. I reflect my



Raymond E. Hanson

*The world's population was something like 700,000,000 in April, 1775, when the original of this reconstructed bridge at Concord, Mass., was the scene of the "shot heard 'round the world."*

own intuitive belief that man has the capacity greatly to improve himself and his society. I still bet on the "miraculous inventiveness of man" gaining on his inveterate cussedness.

There are thoughtful people today who challenge this optimistic view. We hear voices of doubt, warning, and pessimism, decrying or questioning the whole concept of progress. The increased currency of such phrases as "the illusion of progress" reflects an array of deeply felt attitudes challenging the concept of progress and a too great reliance on reason. Such other phrases as "the corrosive effect of materialism," "the self-destroying mediocrity of the machine," reflect another kind of attitude which still sees science and technology as possibly dangerous if not downright inimicable to the dignity and spirit of man. In mentioning these attitudes of doubt and pessimism, it is not my purpose, nor have I the competence, to debate the philosophical considerations on which they rest. My purpose, rather, is to express my contrasting faith that we can continue to draw the blueprints of a still greater society and that we can direct our advancing technology toward the realization of those plans. My purpose is to stress the importance of those aspects of technology which augment the quality as well as the quantity of life and things, which encourage individuality in the midst of standardization, which enhance man's excellence and dignity as well as his productivity. I wish to challenge the doctrine that our industrial technology leads only to the mediocrity of the mass and stultifying standardization.

Let me illustrate these opportunities and responsibilities of science and technology, selecting two out of many possible examples. I take first the impact and promise of that array of machines and concepts which we popularly group and debate under the loose term "automation." Second I wish to stress the importance of recognizing the liberal, humanistic values of science.

There is understandable concern that the new phase of the industrial revolution represented by machines controlling machines should be managed so that people will be helped rather than hurt, so that there will be more jobs rather than fewer, a further elevation of man's values, standards, and aims rather than more standardization. We must not assume that automation will be automatically benign. It will be so only if we have the wit and gumption to use it benignly. We must plan carefully to insure that workers of less than average abilities do not suffer as automation puts a premium on skills. I think the evidence is overwhelming, however, that the socially desirable and humane end can be achieved, and that local and temporary dislocations, which increased mechanization sometimes causes, can be minimized by careful, responsible managerial planning. Certainly we have every reason to expect that the use of machines to control machines can help further to underwrite the productivity upon which our dynamic economy so greatly depends.

These frequently expressed conclusions about the meaning of automation, however, are by no means the whole story; they do not adequately emphasize some of its remarkable qualitative implications. For example, automation will require more and more skilled labor, will reduce the necessity for dull and repetitive forms of labor. It will call for more education at many levels, both sub-professional and professional. The constellation of concepts which are represented by computing machines and the terms "cybernetics" or "information theory" hold the promise of powerful new tools for use in such fields as economics, language, psychology, medicine, and management. Cybernetics may thus build new bridges between the domain of science and the domains of the humanities and social science. By making possible quantitative planning and decision-making in management, computing machines and other data-processing techniques will help to reduce the present high degree of empiricism and downright guessing. Not the least important of their uses may be the new light they may throw on the functioning of the human mind and nervous system. To use the figurative terms of Jacob Bronowski, machines have evolved in two directions, the one toward muscle or strength, the other toward brain or foresight, and we are now in the flood tide of this last group of machines which help to make the human brain more powerful and which hold the promise of helping us break through size and mass and chaos to perceive otherwise undetected patterns and to make more discriminating choices.

These are important qualitative effects; their achievement can help us offset the increasing bigness of our society and its organizations by giving us the better communication which will make size more humane, more controllable, more consonant with the scale of the individual.

Here is a suggestion of how science and technology can help to counteract the grossness of life, to increase our powers of large-scale co-ordination, to refine our quantitative judgments and perceptions so that we can further refine our qualitative judgments. If technology inevitably leads to a greater scale of



organization, greater quantities, higher speeds, more standardization, it also helps to provide powerful new means for enabling man to control these effects and to adapt them to benign use. To keep our environment humane, to make our economy sufficient for the needs of all its people, to make our highways and airways safe, to reconstruct our cities where they have become blighted or strangled, to plan foresightedly their growth and change, to provide adequately for millions of new population in our cities — here indeed are immense national tasks of the highest priority, tasks in which boldness of planning and management must join an audacious technology if we are to triumph over ugliness and meanness of environment and to achieve a new benignity of living.

Always we come back to man himself, even when we discuss the dramatic possibilities of automation. This was happily illustrated by the following anecdote, told recently by J. R. Bright at the Harvard Business School. A test pilot visited a large plant to see the latest concepts in automatic controls. "Young man," said one of the design engineers, "your days are numbered. We've got a new control coming along that will run your plane from the ground. You'd better hunt yourself a nice soft job elsewhere."

"I'm not so sure about that," replied the pilot. "Have you come up with a control mechanism that weighs less than 150 pounds; has 5 senses, 6 degrees of freedom; one that is completely self-contained, self-powered, and self-lubricated? Not only that, have you come up with a control device that is so readily and easily produced by inexperienced labor?"

My second illustration of the importance of qualitative and humanistic factors in our modern technology is to be found in our attitude toward science and scientists. The belief that science is wholly materialistic and vocational, that it undercuts the dig-

nity and individuality of man, that it contributes only to the quantification and not the quality of our society, are beliefs all too frequently held today.

The weight of the evidence seems to show that much of our liberal education — and teacher education — in the United States has largely failed in making science a meaningful part of its education. As a result, much of our general education has failed to achieve any deep relevance to contemporary life or to give adequate insight into how it is being shaped by science and technology. Our modern liberal education, which so appropriately exalts the achievements of ancient Greece, frequently forgets that the Greeks made no real cultural distinction between science and the humanities. It frequently forgets that the motto over the door of Plato's Academy proclaimed, in effect, that mathematics was required.

The misapprehension about science in the public mind may be, and probably is, one of the principal reasons why we have too few students studying for scientific careers or too few competent teachers to teach science.

But what, you ask, is the real character of pure science? The best description I know comes not from a scientist but from a philosopher — Charles Frankel of Columbia University. Science, says Professor Frankel in his eloquent book, *The Case for Modern Man*, "is an example par excellence of a liberal art — a deliberate, selective reordering of experience, which releases men from the narrowness and urgency of their routine affairs, carries them beyond the limitations and accidents of their lives, and makes it possible for their commerce with the world to have scope, order, and systematic consequences. It has been used as an instrument of . . . war, but its primary function is more humane and, as it were, aes-

(Continued on page 314)

*"My purpose is to stress the importance of those aspects of technology which augment the quality as well as the quantity of life and things, which encourage individuality . . . which enhance man's excellence and dignity as well as his productivity. I wish to challenge the doctrine that our industrial technology leads only to the mediocrity of the mass and stultifying standardization." — Dr. Killian.*

M.I.T. Photo





# Regional

**"M.I.T. Day" in Oklahoma draws 1,200 to Tulsa Conference where Alumni win awards and Dr. Killian is inducted into Osage Nation**



Lee Gillette—Tulsa Tribune

▲ President Killian expresses his thanks to Paul Pitts (right) and other members of the Osage Tribal Council for conferring honorary membership upon him.



▲ Theodore T. Miller, '22, (left) President of the Alumni Association, and William R. Holway, '15, (right) who received award for distinguished service.

▼ William J. Sherry, '21, (left) who headed the Tulsa Conference, with Jerrold R. Zacharias, (right) Professor of Physics and popular conference speaker.



**M**.I.T.'s 9th Regional Alumni Conference in Tulsa on February 2 was the largest conference of this kind ever held. Twelve hundred Alumni, industrialists, educators, and students participated. Sponsored by the M.I.T. Club of Oklahoma, as a salute to the state's golden jubilee, it was an event that Tulsa and M.I.T. will long remember. Governor Raymond Gary proclaimed that Saturday as "M.I.T. Day" in Oklahoma. On the eve of the conference, James R. Killian, Jr., '26, President of M.I.T., was officially adopted as an honorary member of the Osage Tribal Nation. At the final dinner, the M.I.T. Alumni Association presented awards for distinguished service to two of Tulsa's leading citizens, William R. Holway, '15, and William J. Sherry, '21.

So many persons wanted to hear Jerrold R. Zacharias, Professor of Physics, and John G. Trump, '33, Professor of Electrical Engineering, discuss, respectively, the frontiers of physics and the applications of ionizing radiation at the morning session, and Robert R. Shrock, Professor of Geology, and E. P. Brooks, '17, Dean of the School of Industrial Management, speak, respectively, on geological and on industrial problems at the afternoon session, that these meetings had to be moved from the Hotel Mayo to a former theater, two blocks away, now known as the Cimarron Ballroom. For the luncheon meeting, at which Warren K. Lewis, '05, Professor of Chemical Engineering, Emeritus, spoke, and the dinner, at which George R. Harrison, Dean of the School of Science, and President Killian spoke, the Mayo's largest dining room was tightly filled.

Three university presidents — George L. Cross of the University of Oklahoma, Oliver S. Wilham of Oklahoma Agricultural and Mechanical College, and Clarence I. Pontius of the University of Tulsa — participated in the conference. Seven justices of the Oklahoma Supreme Court, and so many prominent business and professional men that it is impossible to list them all, attended the conference. John A. Meggison, '05, an electrical engineer, was there from Galena, Kansas, to see Professor Lewis for the first time since they were classmates. The 18 M.I.T. men who went to Tulsa from Cambridge had a busy, delightful day.

Chief Paul Pitts of the Osage Nation presented the feathered headgear and blanket of an Osage to Dr. Killian at the pre-conference dinner in the Tulsa Club. Dr. Killian was honored — "in recognition of his internationally renowned ability as a leader in

(Concluded on page 318)

# Conferences

**Mid-America Conference in Chicago deals with nuclear energy, education, and management. Dulles discusses evolution in communism.**

**C**HICAGO greeted the 1957 Mid-America Conference in a way that left the Institute — and the M.I.T. Club of Chicago — with many new warm and responsive friends in the Windy City. The conference on Technology for Mid-America was held at the Sherman Hotel in Chicago on February 16, and more than 450 visitors came from Illinois, Michigan, Ohio, Indiana, Iowa, Missouri, and Wisconsin.

James R. Killian, Jr., '26, President of the Institute, led the Cambridge delegation. He spoke briefly at the banquet, emphasizing the nation's growing need for qualified professional people and the urgent necessity to recognize, foster, and bring to their full capabilities the most gifted of our young people.

Earlier, at the morning session, Walter G. Whitman, '17, Head of the Chemical Engineering Department, told the regional conference audience that nuclear engineering is "the new frontier" for American universities. At least 2,000 nuclear engineers are now needed every year, but less than 200 graduate.

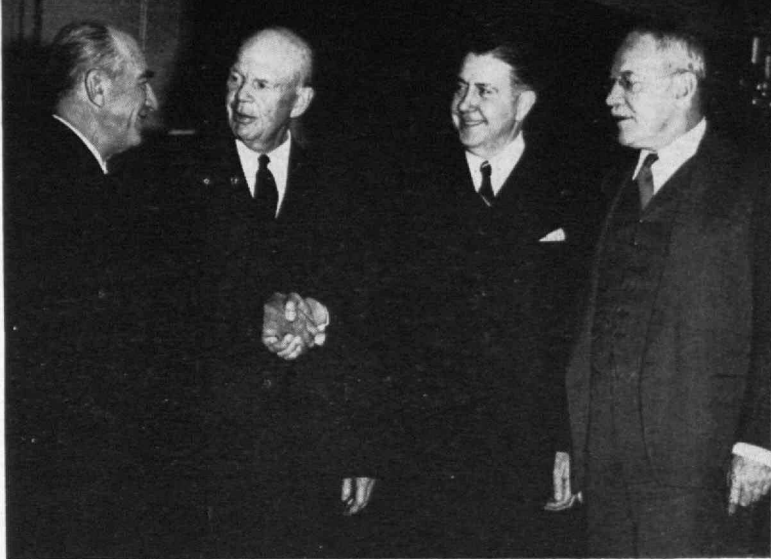
M.I.T.'s response to this need is fourfold, said Dr. Whitman: (1) Five years ago the Institute inaugurated a graduate program in nuclear engineering, under the direction of Manson Benedict, '32, Professor of Nuclear Engineering; M.I.T. has since developed a strong core of classroom instruction and thesis research, and 75 students are currently enrolled; (2) early in 1958 the Institute will complete construction of a nuclear reactor designed for teaching and for research in a wide variety of scientific fields; (3) early in February, the Institute began instruction in modern instrumentation in a laboratory which includes radiation sources, detecting devices, and a wide variety of other instruments; (4) students in nuclear engineering will build, during the spring, an eight-foot graphite sub-critical pile for laboratory instruction in reactor engineering.

E. P. Brooks, '17, Dean of the School of Industrial Management, returned to Chicago as a businessman-turned-educator, to tell the conference during the afternoon session what educators foresee for business management in the decades ahead.

"Management of industrial enterprises has become a high calling," he said, and its future problems will call for "industrial statesmanship" of high order.

At the morning session, John E. Arnold, '40, Associate Professor of Mechanical Engineering at the Institute, described and illustrated how new ways of looking at things may help all engineers to be more imaginative and creative.

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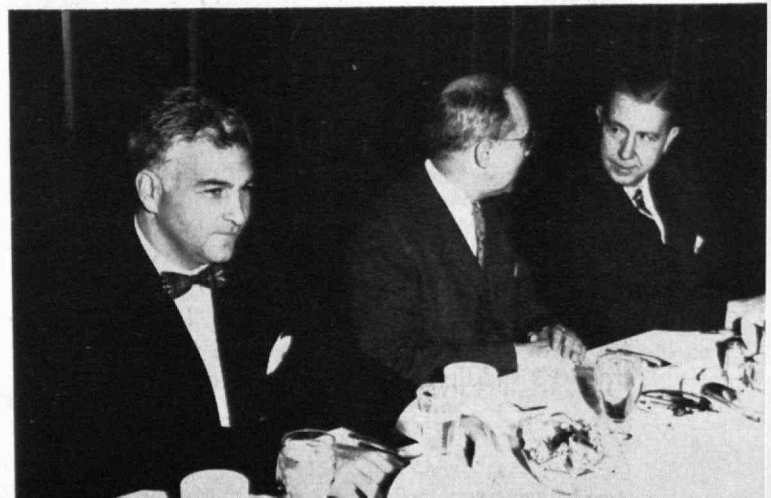


Jack Curran, Rialto Service Company

▲ Among those present at the banquet of the Mid-America Conference were (left to right): Major Lenox R. Lohr, Head of Chicago's Museum of Science and Industry; James M. Barker, '07, Chairman of Board, Allstate Insurance Company; President Killian; and Allen W. Dulles, Director, Central Intelligence Agency.



▲ At the head table at the luncheon were (left to right) Philip L. Coleman, '23, who presided; Dwight K. Taylor, '26, President, M.I.T. Club of Chicago; Robert M. Kimball, '33, Secretary of M.I.T.; John R. Kirkpatrick, '48, a member of the Conference Committee. ▼ Also at the head table during the luncheon were (in reading order): Alfred S. Alschuler, '35, (architect), of the M.I.T. Club of Chicago; John W. Barriger, '21, 3d, railway executive; and President Killian.





# Lock, Stock, and Barrel

It was no flash in the pan concept that led to the construction of new guns from parts of old during a frugal period of a third of a century

by FREDERIC W. NORDSIEK

THE "bargains" of war surplus are so much a part of the contemporary scene that it is hard to believe that Uncle Sam was once so frugal he was able to bridge a whole era of firearms development — the transition from muzzle-loading muskets to breech-loading metallic cartridge rifles — by using parts from the old guns to make new ones.

Why is war surplus ever with us? The wasteful exigencies of war demand that military supplies of all sorts be abundantly available at widely scattered points. When hostilities suddenly cease, much of this war material, produced in huge quantities, becomes useless and is dumped on the civilian market at disaster prices. Such bargains have their limitations, for military goods are seldom entirely suited to civilian use. Also the purchaser must realize that, as a taxpayer, he has already compensated for the difference between its original value and the surplus purchase price.

## Bargain Bazaar

Today surplus materials from World War II glut the market. Sheepskin-lined leather pants that cost Uncle Sam \$25.00 for Air Force personnel may be had now for \$5.98. The subtleties of modern warfare have led to the current availability of many surplus bargains in the electronics and optics fields. To cite examples, radio transmitters costing \$1,500 during hostilities can be purchased for \$39.95; aircraft receivers with tubes have sold for less than \$5.00 rather than \$75; gunsights that cost about \$100 may be bought for \$4.75; sextants for which the government paid \$220 sell for \$22.50; and a \$21,000 computing instrument used in fire control is yours for a mere \$150. As a rule, items of this nature are useful to civilians, if at all, only to be disassembled and used as a source of parts.

But currently available military surplus materials are not limited to those from World War II; dealers are still offering choice items from the Civil War! An example of old-time war surplus equipment will serve to illustrate another reason why such items are ever plentiful — the rapid change in methods of waging war, and the consequent speedy obsolescence of weapons and materials. Cavalry last saw significant service during the Spanish-American War, yet you may still purchase all the cavalry equipment you want, for next to nothing. Thus the "boot," a leather and brass affair that was attached to the mounted trooper's saddle to hold his carbine, cost more than

\$6.00 in the currency of 1898, but now sells for only \$0.40 even in today's devalued money.

## Evolution of the Rifle

But no change in a fundamental tool of war has ever been more revolutionary than the development, during the last half of the Nineteenth Century, of musket into rifle. For more than two centuries smoothbore, muzzle-loading, flintlock muskets served all firearm needs, military and civilian. The flintlock system was invented about 1630; as late as 1844 the United States Armory at Springfield, Mass., was still making flintlock muskets. The Springfield Armory was established toward the end of the Eighteenth Century, and in 1795 began the production of the flintlock musket shown in Fig. 1. The last flintlock, made there in the year 1844, differed from the prototype only in minor details.

Rifling of gun barrels was invented in 1547; but rifling\* increases the accuracy of a gun only if the bullet fits the barrel snugly, and for military purposes a snug-fitting bullet took much too long to ram home. A workable breech-loading mechanism was patented in England in 1776; but until the advent of the metallic cartridge, all breech-loading devices dissipated so much of the force of the discharge through leakage at the breech as to be impractical.

## The Percussion System

After development of the flintlock in the Seventeenth Century, the first invention to have significant impact on military firearms was discovery of the percussion system in 1807. To explode the powder charge, this system employs a detonating cap, essentially similar to that used in a child's toy cap pistol.

With adoption of the percussion system, the government was "stuck" with large quantities of flints; these are still on sale, by a New York surplus dealer, for \$1.00 a dozen.

By 1841, the percussion system had evolved to a sufficient degree of effectiveness that the United States Government formally adopted this system in place of the flintlock, although the Springfield Armory

\*Rifling is the cutting of spiral grooves running the length of the interior of a gun barrel. The bullet fits so tightly that the ridges between the grooves inside the barrel press into it. Therefore, the bullet in passing through the barrel is given a rapid spinning motion in addition to its forward motion. Acting on the principle of the gyroscope, this spin holds the bullet to a true course.

continued to make flintlocks for three years more. A percussion gun, made for the U.S. Army by the Springfield Armory, is shown in Fig. 2. This is the 1863 model, produced toward the end of the percussion era.

### Metallic Cartridges

The next, and in a sense the ultimate, advance was the perfection of a center-fire metallic cartridge in 1860. By this invention the older idea of rifling of gun barrels was made really effective, and breech-loading became practical. In 1866, only two and a half decades after percussion guns came into use, the Springfield Armory produced a metallic breechloader, which is illustrated in Fig. 3.

Thus Springfield made its last flintlock in 1844; its first metallic cartridge breechloader in 1866. Just 22 years had seen this great change in a basic tool of warfare.

### Waste Not — Want Not

The flints, already mentioned, were about the only major surplus items resulting from the fast-paced changes in the infantry's fundamental weapon. The guns on hand, when each major change occurred, were boldly altered to the new design. This could be

done for two reasons: first, because Eli Whitney of New Haven, Conn., had introduced interchangeable gun parts in 1798 (as a means for mass production); and second, because the lock (the only mechanical part of these old guns) did not really change in design from the Seventeenth Century, when the flintlock came in, until the end of the Nineteenth Century, when repeating rifles replaced single-shot breechloaders.

The figure of speech, "lock, stock, and barrel," derives from the three classic parts of a musket. The barrel was always merely a metal tube closed at one end; the stock was always simply a wooden handle to facilitate holding and aiming the weapon. The lock was the salient mechanical feature. It provided a hammer, arranged to be released by a trigger, and actuated by a powerful spring. In the flintlocks this hammer drove a flint against a steel plate, to strike a spark. In the percussion guns, the hammer descended upon a nipple, to explode a detonating cap. In the early breechloaders, the hammer struck a firing pin, driving it into a primer set in the base of a metallic cartridge.

### How Old Guns Worked

The lock of a Revolutionary War flintlock musket is illustrated in Fig. 4. The lock plate, supporting the

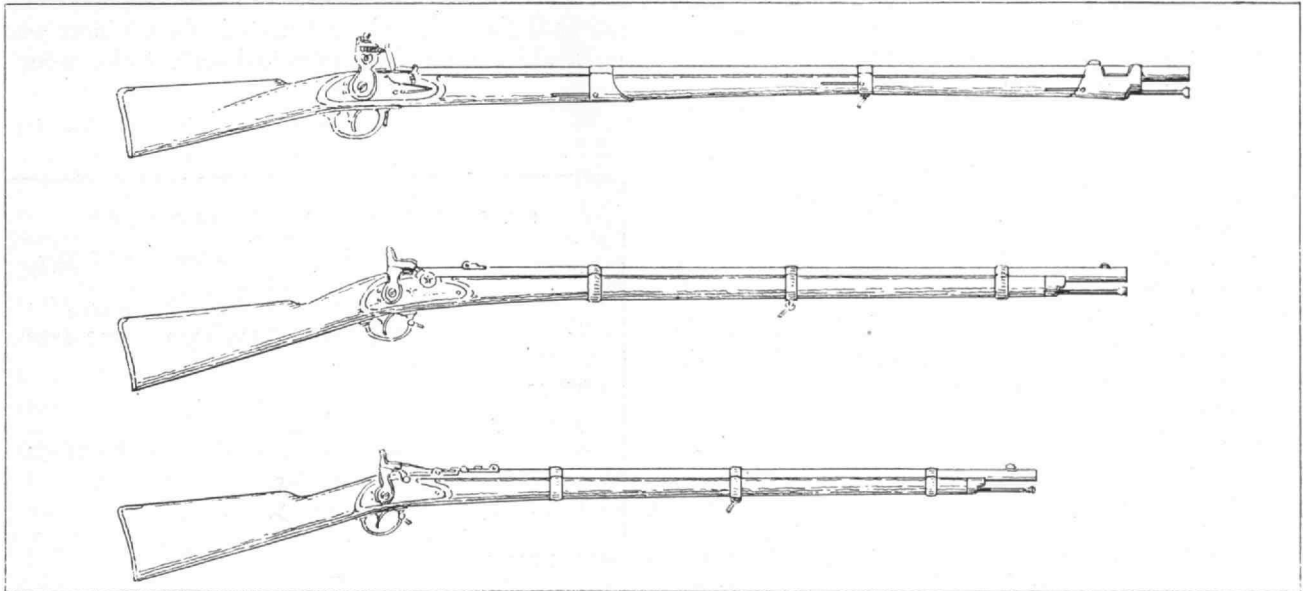


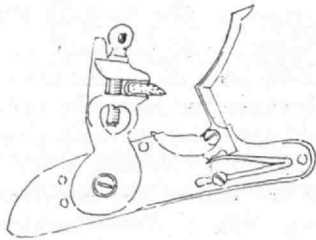
Fig. 1. (Top) The first gun made at the Springfield, Mass., Armory after it opened in 1795. This muzzle-loader was a smoothbore flintlock, firing a 69-caliber ball; it measured five feet overall. Such long barrels were used to gain maximum impetus from the slow-burning black powder, and also in the hope of directing the bullet with some degree of accuracy. But the loose-fitting bullet emerged from the unrifled barrel to pursue a course that was at best erratic. The soldier armed with this piece could be more sure of hitting his antagonist with a carefully thrown rock than with a shot from his musket.

Fig. 2. (Center) The first Springfield percussion guns were made by converting or "altering" the old 69-caliber flintlocks; such guns were issued to some militia regiments at the outbreak of the Civil War, and several mutinies occurred in protest. The 58-caliber percussion gun shown above was made at the Springfield Armory from the time the old flintlocks were

used up, until the percussion system went out of use. These guns continued to be muzzle-loaders, but now the barrel was rifled instead of being smooth. Such guns cost the government \$10.69; as collectors' items they now bring about \$35.

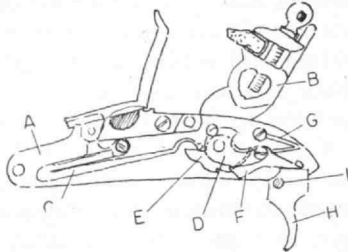
Fig. 3. (Bottom) The single-shot, breech-loading rifle made for the U.S. Army by the Springfield Armory. A simple trap-door mechanism permits the insertion of a metallic cartridge into the rear of the barrel; such guns were made at Springfield from 1866 to 1890. Note how much this rifle looks like the Civil War muzzle-loading musket shown in Fig. 2. Many old musket parts were used to make the early breechloaders. Thus the writer owns an 1870 breechloader, caliber 50, made with the lock plate from a Civil War 58-Caliber muzzle-loader. As may be seen, the gun pictured above was equipped with a ramrod; tradition dictated that this accessory be retained, although it had no use whatsoever with the breechloader.





◀ Fig. 4. Diagram of the lock of a Revolutionary War flintlock musket. With minor changes this lock was used on U.S. military rifles until the end of the Nineteenth Century. (Top) Outside view, looking from right side of the stock; gun has been discharged. (Bottom) Inside view, showing parts hidden in a recess in the stock. Hammer is cocked. To discharge the gun, the finger pressed backward on the trigger, in the direction of the horizontal. The trigger pivoted around the trigger screw, pressing upward against the sear, in the direction of the vertical. This pressure disengages the sear from a notch in the tumbler, allowing the hammer to fall.

Key to principal parts: A — lock plate; B — hammer; C — mainspring; D — bridle; E — tumbler; F — sear; G — sear spring; H — trigger; I — trigger screw.

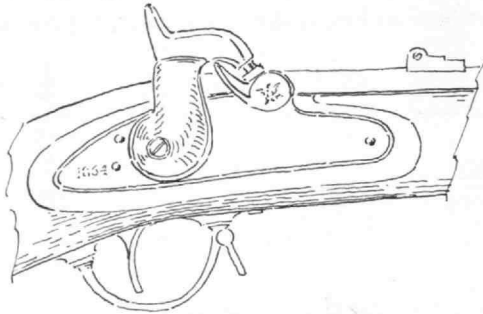


entire mechanism, was set in a recess on the right side of the stock; the trigger, as the diagram shows, worked upward through a vertical hole in the stock.

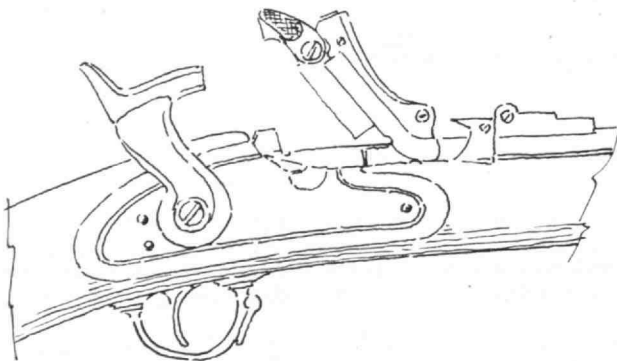
With only minor changes, this lock was part of the U.S. Army rifle until 1890. When the flintlock system became outmoded, the frizzen and pan and their appendages were eliminated, and the flint-holding hammer was replaced by one with a solid head, having a depression on its striking face to fit over the nipple that held the detonating cap as shown in Fig. 5. When this lock was transferred to breechloaders, the only change made was to grind the face of the hammer flat, to assure a good blow against the firing pin, as shown in Fig. 6.

### Interchangeable Parts

Fig. 7 shows how long a period of usefulness was enjoyed by some of the principal parts of the American (Continued on page 308)



▲ Fig. 5. Outside view of a percussion lock. A nipple to hold a percussion cap has been put in place of the pan of the flintlock, and the flint hammer has been replaced with a solid hammer having a depression in its striking face to fit over the nipple.



▲ Fig. 6. Outside view of a breechloader lock. The percussion nipple has been removed, and the rear of the barrel fitted with a simple trap-door device for inserting the 50-caliber metallic cartridge. The face of the hammer has been ground flat to provide a good blow against the firing pin. This pin traverses the length of the trap door; when struck by the hammer it is driven into the primer, a detonating cap set into the center of the base of the cartridge.

FIG. 7. INTERCHANGEABLE PARTS OF OLD GUNS

	58-Caliber Muzzle Loaders 1855-1864	50-Caliber Breech Loaders 1866-1870	45-Caliber Breech Loaders 1873-1890
<b>LOCK PARTS</b>			
Mainspring	.....	.....	.....
Bridle	.....	.....	.....
Bridle Screw	.....	.....	.....
Lock Plate	.....	.....	.....
<b>STOCK PARTS</b>			
Butt Plate and Screws	.....	.....	.....
Guard Bow and Parts	.....	.....	.....
Band Springs	.....	.....	.....
<b>BARREL PARTS</b>			
Front Sight	.....	.....	.....
Breech Screw	.....	.....	.....
Breech-loading Parts	.....	.....	.....
<b>BAYONET AND PARTS</b>			
Bayonet	.....	.....	.....
Bayonet Clasp Parts	.....	.....	.....

# BUSINESS IN MOTION

## *To our Colleagues in American Business . . .*

When you drive into a gasoline station and ask the attendant to, "Fill 'er up", you may not be aware of it, but in the storage tank beneath the concrete on which your car is standing there may be an electric motor and pump submerged in the gasoline. There is quite an interesting story about this explosion-proof motor.

The use of the positive displacement type of pumping unit in service station operation has presented vapor-lock problems to pump manufacturers for many years. And with the introduction of even more volatile gasoline, present pumping systems have become inoperative in some applications. The use of a submersible pumping unit in the gasoline storage tank therefore has become not only desirable but virtually a necessity.

In designing the pump motor for this type of unit a leading manufacturer had originally planned on using an aluminum casting for the stator, or outside shell of the motor. But when the design engineers considered the factors that would be encountered, and the symmetry of shape, it appeared that an aluminum extrusion might have advantages over a casting.

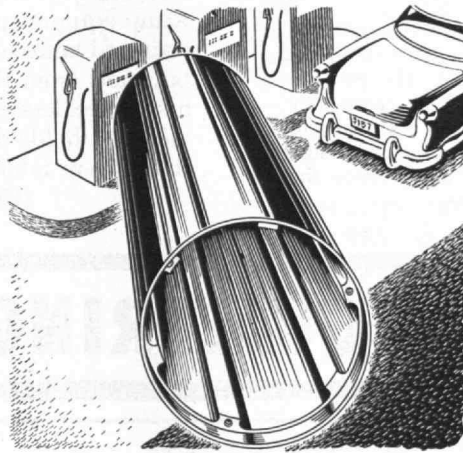
At this point the manufacturer recalled the numerous Revere copper and brass parts they had been using in their motors over the years, with the utmost satisfaction, and how Revere's T.A. (Technical Advisory) Service had often helped them with similar problems. The result was a huddle with a Revere Technical Advisor to discuss the various pros and cons of castings versus extrusions.

It was found that by using extrusions there would be no problem of porosity which is often present in the case of castings. Substantial savings in weight would also be made as the wall thickness of the stator shell could be reduced, and the only machining would be to the ribs on the inside of the tube. With an extrusion no machining of the outside of the tube is required, which would be necessary should a casting be used, while the smoother surface on the inside improves flow

characteristics. This is an important factor in this particular pump motor since the fluid being pumped passes between the stator core and the extruded shell, while in the conventional submersible pump motor a double shell is used. Also, with the smooth surface of an extrusion, less horsepower is used to pump a given volume of fluid. The result was the hollow Revere Aluminum Extrusion you see sketched at left, measuring 13-9/16" long by 3-1/2" O.D.

Here you have still another example of Revere cooperating with the customer in selecting the right metal in the right form to do the best job with the greatest economy . . . be it aluminum, copper or any one of their alloys.

Not only the copper and brass industry but practically every industry you can name is able to cite similar instances. So we suggest that no matter what your suppliers ship you, it would be a good idea to take them into your confidence and see if you cannot make a better product at lower costs by specifying exactly the right materials.



**REVERE COPPER AND BRASS INCORPORATED**

*Founded by Paul Revere in 1801*

Executive Offices: 230 Park Avenue, New York 17, N. Y.

## LOCK, STOCK, AND BARREL

(Continued from page 306)

can military rifle. Of the lock parts, the plates are of particular interest, because they were plainly marked with their dates and places of manufacture. These dates show, for example, that the 50-caliber breech-loaders were made with lockplates from the old 58-caliber<sup>†</sup> percussion muzzle-loaders. An 1870 metallic cartridge Springfield rifle in the writer's collection bears an 1863 lock plate, taken from a gun like that shown in Fig. 2. As these 58-caliber muzzle-loaders were the principal weapons of the Civil War, and were in short supply throughout the conflict, the chances are that this very lock plate saw service in the field during the Civil War.

The mainspring and bridle are the lock parts with greatest longevity, and had useful lives extending over 35 years. In 1873, the bridle screw lost its usefulness with the advent of the 45-caliber breech-loader, only because of the fact that the newer gun had a thinner lock plate, so that a shorter screw was needed.

<sup>†</sup>Caliber refers to the crossways diameter of the bullet in hundredths of an inch; thus the 50-caliber bullet used in the first breechloader was a half inch in diameter. The 69- and 58-caliber musket balls had these odd calibers because they were designated in terms of the number of balls per pound of lead. When the 50-caliber metallic cartridge came in, design in terms of diameter of the bullet was adopted, hence the neat even succession of 50, 45, and 30 calibers.

Although made of the finest black walnut the country could provide, the stocks of those old guns suffered sufficient battering in use that they were discarded when alterations were made. But several stock parts, made of steel, were used over and over. Notable among these are the butt plate, that covered the part of the stock held against the shoulder in firing, and the guard bow. This latter part is the one that encircles and protects the trigger. As Fig. 7 shows, these parts and their appendages were good over a span of more than 35 years.

The front sight, which also served as a stud to steady the bayonet, was the only barrel part that was uniform for all of these guns. But the breech screw (which was the plug that closed the rear of the barrel) and quite a few parts of the simple single-shot breech-loading mechanism, were interchangeable throughout the entire quarter of a century during which single-shot rifles were made for the United States Army.

The bayonets used on old guns were the angular type, familiar in pictures of the Revolutionary and Civil Wars. Except for brief experiments with other designs, the angular bayonets were standard U.S. Army equipment up until about 1892 when the now standard knife bayonet was adopted. As Fig. 7 shows, bayonets from the muzzle-loaders were used on the first breechloaders. Parts of the bayonet clasp, the device that holds the bayonet in place, spanned the entire 35-year interval from 1855 to 1890.

(Concluded on page 310)

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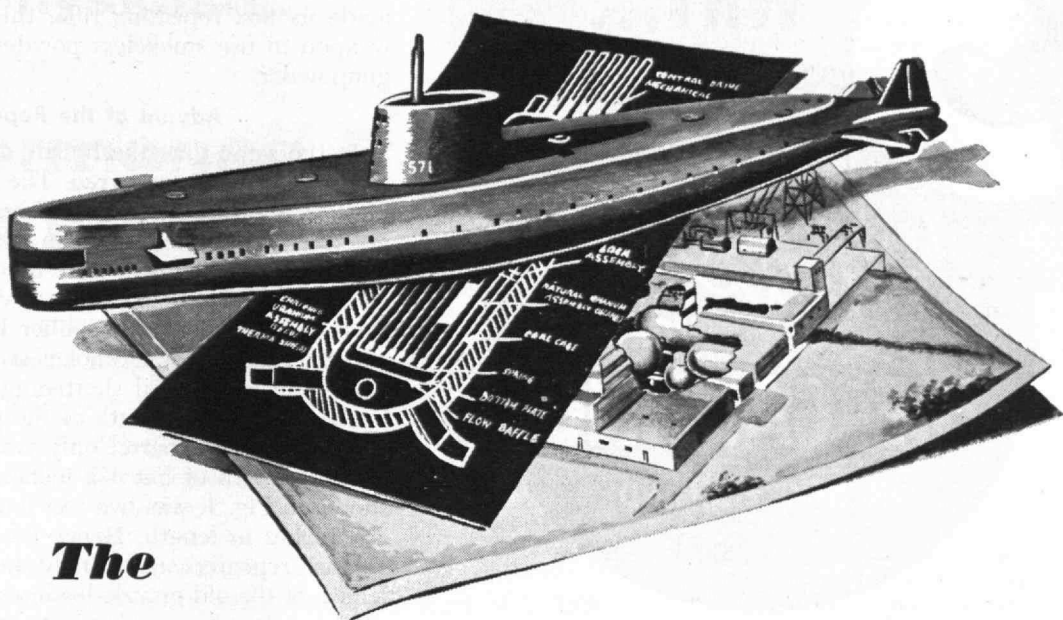
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## LOCK, STOCK, AND BARREL

(Concluded from page 308)

The last decade of the Nineteenth Century marked a turning point in the American military rifle. As just noted, the knife bayonet replaced the traditional angular bayonet. In 1892 the Springfield Armory made its first repeating rifle; this was also the first weapon to use smokeless powder rather than black gunpowder.

### Advent of the Repeater

At the same time the fourth, and to date final reduction in caliber occurred. The Revolutionary War flintlock shot a ball of 69 caliber, or 0.69 inch in diameter; Civil War percussion guns were 58 caliber. The first breechloaders were 50 caliber, and in 1873 were reduced to 45-caliber. With the advent of smokeless powder, a 30-caliber bullet was adopted, and is still standard. Smokeless powder also made possible a substantial shortening of the barrel, and hence of the total length of the gun. The 30-caliber repeaters have a barrel only two feet long, and an over-all length of but 43½ inches. The 1795 flintlock shown in Fig. 1, was five feet long, and had a barrel 44½ inches in length. Hence the total length of 30-caliber repeaters is actually less than the barrel length of the old muzzle-loaders!

The major changes that have taken place in the development of firearms of the "shoulder arms" variety have been traced, from the Revolutionary War flintlocks to the modern breech-loading repeating rifles. That it was feasible to use pieces of the same design — and even the same identical parts — for repair and replacement throughout a period of as much as 35 years is a revealing commentary on our Nineteenth Century industrial economics. Today, with much better techniques of manufacture, better materials, and vastly improved methods of test and inspection, assembly operations do not reflect the provident use of resources that marked a more frugal era.

Part of the reason for this shift is that the advent of the repeating rifle ruled out the possibility of using old gun parts to make new firearms. The complexity of the repeating mechanism, the precise fitting of parts necessitated by the high pressures generated by smokeless powder, and the much greater variety of service conditions to which modern arms may be put, have made it impractical to employ such cannibalism as has been described. Thus passed an era of "alteration" — a period of utmost fascination for the firearms historian.

But doubtless other factors are also at work to mitigate against combining old with new. Today labor costs are at an all-time high, and it is cheaper to make new parts by automatic machinery than to hire the manual labor required to reclaim, restock, and re-use old parts. Then, too, we are not so thoroughly imbued with the need for economy as were our ancestors; we have been conditioned to accept obsolescence — and frequently discard machines in good operating condition merely for reasons of style. In the time of Benjamin Franklin, "waste not, want not," was a thoroughly good maxim to impart to the young. But somehow, in the Mid-Twentieth Century, we seem to have lost sight of this aim, "lock, stock, and barrel."



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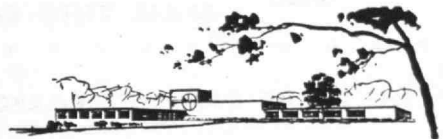
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## TREND OF AFFAIRS

(Concluded from page 291)

In addition, two general points were made, of whose validity we are not yet certain, which are receiving careful consideration by the Department.

The first of these is the suggestion that freshman chemistry as now given is perhaps slanted too much toward physical chemistry and numerical problem-solving. It is possible that greater emphasis could appropriately be placed on questions of chemical structure and on organic chemistry. This raises the question as to what the ideal content of a course in freshman chemistry should be. If it can be said with validity that such a course should spread out before the student all facets of the science, so that he may decide intelligently whether or not chemistry is the profession to which he wishes to devote his life, then it would seem to follow that the freshman course should be as broad as it is possible to make it.

The second question was whether, with a necessarily fixed curriculum, sufficient opportunity existed to develop from among the young instructors the dedicated and enthusiastic teachers who would create, by their own personality, a desire in their students to follow their profession. Manifestly it is difficult for a young man whose primary interest is organic chemistry to do an enthusiastic job if the curriculum requires him to concentrate on physical chemistry and problem-solving. The necessity for inspired teaching is certainly obvious, and experience

indicates that inspirational teaching produces real and tangible results. Apparently because of the teaching abilities of certain members of their chemistry departments, a few of the liberal arts colleges, for example, have produced consistently a greater proportional number of men going on for their Ph.D. degrees in chemistry than other institutions. It would seem that the more it is possible to "turn loose" young instructors to concentrate on those areas in which they are vitally interested, the more likely it is that inspired teaching will result.

Perhaps these two points are, to a considerable extent, interrelated. If, for example, the freshman chemistry curriculum were broadened to include in reasonable degree all facets of the science, it might follow automatically that the instructors, through being able to "ride their hobby" somewhat more actively, might more readily communicate some fraction of their own enthusiasm to their students.

It should be emphasized that the Visiting Committee has come to no final conclusion with respect to these questions. It is important at the moment only that they have been raised, and that they are being given full and careful consideration. For this reason we have no recommendations to present except to urge the importance of increasing the interest and attractiveness of freshman chemistry.

The report of the Visiting Committee on the Department of Chemistry was received for publication in *The Review* on October 25, 1956. The topics enumerated above were presented at the meeting of the M.I.T. Corporation on March 5, 1956.



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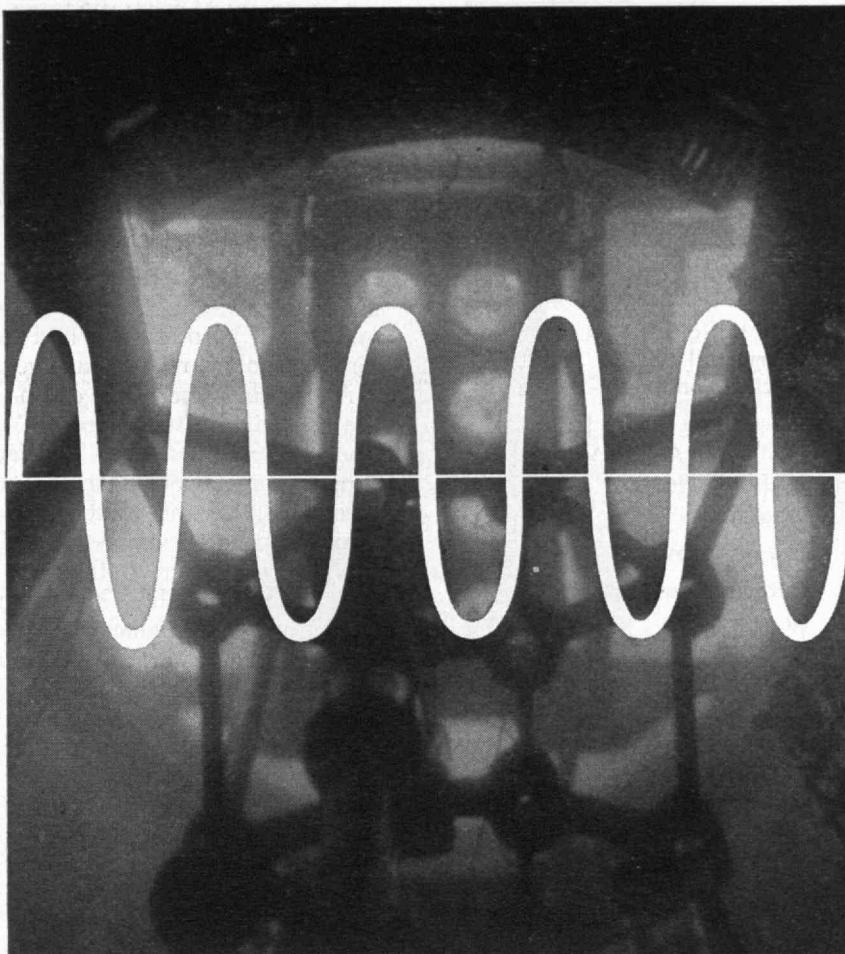
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(Continued from page 301)

thetic. And its relation to practice is the relation of any fine and liberating art — it carries men beyond the foreground of their experience, and enlarges the dimensions of human choice by acquainting men with the alternative possibilities of things. Quite apart from its technological applications, it represents, to use an old philosophical expression, a 'final good' — something which has its own inner dynamism, goes its own way, and can give stability and direction to the rest of our lives."\*

And to this description can be appropriately added the following observation of Warren Weaver of the Rockefeller Foundation. The facts, he said, "do not support the concept of science as some sort of super creed, magical and mysterious as it is all-powerful, arrogant from its successes, and avid to invade and conquer, one after another, all the fields of human activity and thought. This viewpoint does not justify the notion that science is so special as to be unique, as well as so curious as to be incomprehensible. This does not depict scientists as strange creatures who are in one sense so objective, judicial, and precise as to be incredible, and in another sense so apart from life as to be selfish and sinister.

"On the contrary, these descriptive comments picture science as the servant of man, not his master; (Concluded on page 316)

\*New York: Harper and Brothers, 1956.

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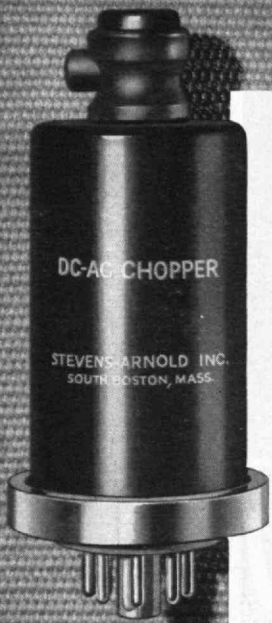
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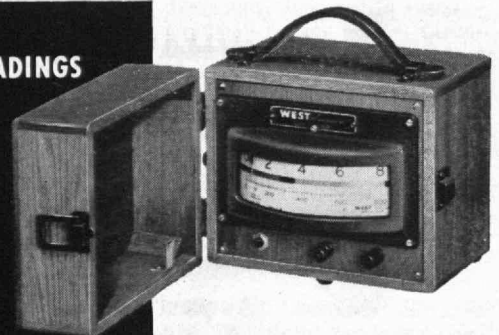


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First of all, what's it all about? What does a fellow like John Jackson do all day? In his own words, "I keep in touch with the executives of many different companies—advising them on the use of their IBM electronic data processing computers. I personally consult with these customers, and analyze their scientific and technical problems for solution by IBM. Occasionally, I'm asked to write papers, and give talks and demonstrations on electronic computing. All in all, it's pretty fascinating . . . something new pops up every day." In other words, John is a full-fledged computing expert, a consultant . . . and a very important person in this age of automation through electronics.

reactor. The basic format had been established, but the project still required months of toil with mathematical equations. The aircraft people couldn't afford to wait that long, so they called in IBM. After discussion



Mapping out a computer program

with top executives, John helped to map out a computer program that saved the organization over 100 days of pencil-chewing arithmetic. Later, for this same company, John organized the establishment of computer systems for aircraft performance predictions . . . for data reduction of wind tunnel tests . . . and for wing stress analysis. At the same time, he worked with this company's own employees, training them in the use of IBM equipment. John still drops around to see that everything is running smoothly.

Another service that John performs is the constant reappraisal of each customer's IBM operation. Occasionally, a customer may tie himself in knots over a procedural "stickler." Periodically, in fact, John brings IBM customers together . . . just to talk over what's happening in each other's business—how everybody else handled that old bugaboo . . . details.

### New field for Mathematicians

John is exercising his mathematical know-how in a field that was practically unheard of ten years ago. Even now, this kind of work may be news to you. It was to John Jackson a few

years back when he was an undergraduate at the University of Colorado. At that time, he was considering actuarial work or mathematical research. But John liked the excitement and diversification of science and industry and he wanted to use his mathematical background. It was not until he was interviewed by IBM that field computing whetted his scientific appetite. A few months later, John launched his own IBM career as an Applied Science trainee.

Promotionwise, John has come a long way since then. He's now an Applied Science Representative in one of the biggest offices in the IBM organization . . . mid-town Manhattan.



Discussing a problem with colleagues

With his wife, Katherine, and daughter, Lisa, 20 months, and John, Jr., 6 weeks, he enjoys his suburban Port Washington home. He's happy and he's satisfied. And then, too, John knows a few vital statistics about IBM . . . such as the fact that the Applied Science Division has quadrupled during the past three years, and that in 1956 alone, over 70 promotions were conferred. If ever a future held promise, here is one.

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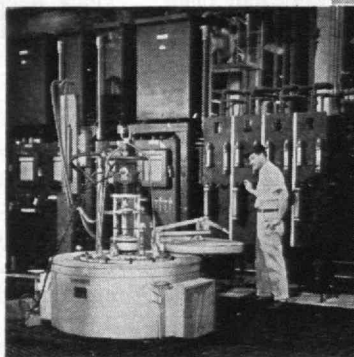
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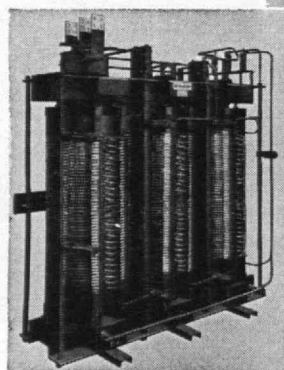


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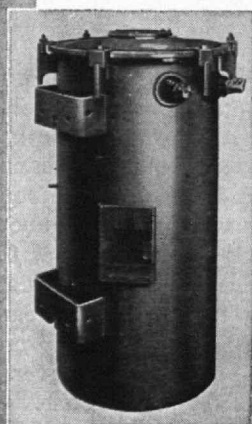
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## TECHNOLOGY SHAPES OUR FUTURE

(Concluded from page 314)

and as a friendly companion of art and of moral philosophy. This is a science that is the way it is because man wants it to be that way. It is a natural expression of both his curiosity and his faith."

If we can make science understood in these terms of Dr. Frankel and Dr. Weaver, we can gain much, both for science and for our culture. We can still further break down the antagonism between the domain of science and the domain of the humanities and social sciences with the result that both join together for the furtherance of man's wisdom and understanding.

It is this concept of science as the servant of man, and as basically a humanistic discipline, that helps to strengthen my optimism about progress being real and technology benign.

Two of the special fields in which Americans singularly excel, two of the richest outcroppings of our native resources, are certainly technology and management. We have seen the two of them, each abetting the other, enable American capitalism to confound its detractors and enemies and to adapt itself in a most remarkable way to fulfilling the changing needs of all our people, to make itself not the monopoly of the few but the servant and prodigal provider for all.

It is an inherent characteristic of both technology and professional management that they impose upon our society a relentless requirement for more skill and talent and breadth of understanding — in short, for human quality. As a consequence, we now witness a process of upgrading of skills and talent which can enhance the quality, the sense of the first-rate, of our society, and confound the critics who have predicted that the materialism of the machine can only lead to the standardization and deterioration of human beings.

As technology advances, it generates new requirements for education. It requires not only more engineers and scientists; it provides new opportunities for all our talents and professions for humanists and ministers and social scientists and doctors and lawyers and all the skills of labor. It imposes a relentless requirement for new knowledge and discovery along with greater sensitivity to humane and moral values and a pervasive elevation of our aims and ideals. To use a line of Robert Frost's, "It asks of us a certain height" and this height steadily climbs.

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## REGIONAL CONFERENCE — TULSA

(Concluded from page 302)

science and his efforts in defense of our country and the advancement of mankind." His Indian name is "Man of Big Mind." Dean Harrison jocularly referred to the honor bestowed on him as an "S.O.S." degree signifying "Sage Osage."

The presentation ceremony was solemn and reverent. Chief Pitts was assisted by five members of the tribal council and three other honorary members of the Osage Tribe. The delegation from the Osage Indian Agency in Pawhuska also included Russell G. Fister, superintendent of the agency, and Tom Ferrier, chief of minerals.

Mr. Sherry, who was largely responsible for arranging the conference as a salute to Oklahoma's golden jubilee, was described as "Mr. M.I.T. of Oklahoma" in the award presented to him by Theodore T. Miller, '22, President of the Alumni Association.

Mr. Holway, the recipient of the other award, is one of the world's foremost designers and builders of water systems. Besides designing Tulsa's modern water system and the two dams which supply water to the city, he has designed and helped to build systems for many other cities in the state.

Co-chairmen of the committee responsible for the success of the conference were Walter S. Smith, '30, and Bernard E. Groenewold, '25. They were assisted by subcommittees headed by Scott W. Walker, '40, David A. Bartlett, '39, John G. Burke, '38, Erling O. J. Helland, '40, and Donal K. Holway, '47. Joseph D.

Eisler, '32, and R. L. Rahder of the Pan American Petroleum Corporation arranged for astonishingly extensive press, television, and radio coverage.

Among those who traveled far to join the Oklahomans were: Edward J. Hanley, '24, President, Allegheny Ludlum Steel Corporation, Pittsburgh; Horatio L. Bond, '23, Chief Engineer, National Fire Protection Association, Boston; John J. Desmond, Jr., Commissioner of Education, State of Massachusetts; Hugh S. Ferguson, '23, Executive Vice-president, W. R. Grace and Company, New York; Thomas I. Stephenson, 3d, 6-45, Aluminum Company of America, Pittsburgh; John Lawrence, '32, President, Joy Manufacturing Company, Pittsburgh; William H. MacCallum, '24, Vice-president, Modern Talking Picture Service, Los Angeles; and John R. Kirkpatrick, '48, of Chicago, Vice-president, Arthur D. Little, Inc., Cambridge.

Oklahoma City was well represented by a large delegation that included Dean A. McGee of Kerr McGee Oil Industries, Inc., and James Harlow, Director of the Oklahoma City Frontiers of Science Foundation. Wichita visitors included Fred C. Koch, '22, President of the Wood River Refining Company. Cecil H. Green, '23, President of Texas Instruments, Inc., was among those from Dallas.

While other regional conferences have attracted industrial leaders who were not necessarily Alumni of M.I.T., the Tulsa conference was unusual in the large proportion of non-Technology persons who attended. All in all, it was the type of event that makes friends for M.I.T.

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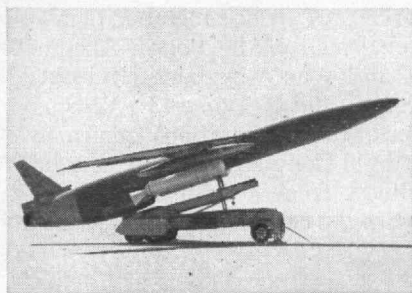
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## Snark scheduled for Strategic Air Command

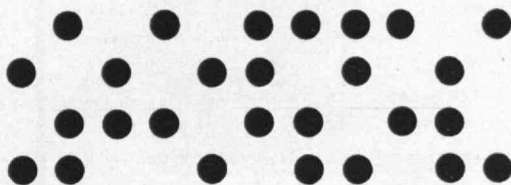
(HAWTHORNE, CALIF.) Northrop Aircraft's Snark SM-62, America's first intercontinental guided missile, is now scheduled for delivery to the Strategic Air Command of the U. S. Air Force. It will be placed with operational units to assume an important role in the air defense of the United States.



Powered by a Pratt & Whitney J-57 turbojet engine, and with a 5000-mile range, the Snark cruises at high altitudes with fighter-plane speed. It is designed to deliver a nuclear warhead at supersonic velocity to any target in the world, day or night. A large number of these intercontinental missiles can be launched in quick order in any weather.

With an overall length of 69 feet, wing span of 42 feet, and height of 15 feet, the Snark is easily air-lifted to any site or base with its Northrop-developed mobile launching platform. The Snark has demonstrated its remarkable ability to guide itself successfully over the long-range proving ground in the South Atlantic from Patrick Air Force Base, Cape Canaveral, Florida.

A pioneer for 17 years in the development of supersonic aircraft and missiles, Northrop Aircraft has won distinction for its many achievements in this field. The latest Northrop project is a lightweight supersonic trainer plane, the T-38, that promises to reduce considerably the cost of training Air Force pilots.



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If you qualify for any phase of computer research, design or application, we invite you to contact the Manager of Engineering Industrial Relations, Northrop Aircraft, Inc., ORegon 8-9111, Extension 1893, or write to: 1015 East Broadway, Department 4600-BB, Hawthorne, California.

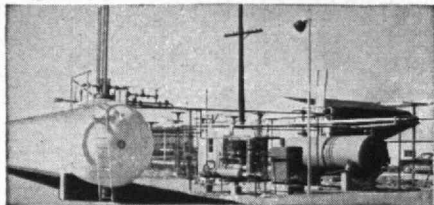


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## REGIONAL CONFERENCE — CHICAGO

(Concluded from page 303)

Pietro Belluschi, Dean of M.I.T.'s School of Architecture and Planning, at the afternoon session called for more humanism in architecture—and a more comprehensive view of the total environment as a basis for planning its individual units.

Allen W. Dulles, Director of the U.S. Central Intelligence Agency, concluded the Mid-America Conference at the banquet in the evening with an optimistic report on political and social developments in Russia, and a review of Soviet history since the death of Stalin—as recorded, beginning on page 295.

Among those present for the Mid-America Conference who contributed so much toward its success were:

Louis H. G. Bouscaren, '04, Director, Market Facts Inc., who presided at the afternoon session of the conference;

Theodore T. Miller, '22, President of the Alumni Association, who presented citations of the Association to James M. Barker, '07, a life member of the Corporation who is chairman of the Board, Allstate Insurance Company and who was banquet toastmaster at the conference; and to Robert E. Wilson, '16 (also a life member of the Corporation), chairman of the Board, Standard Oil Company of Indiana, who was prevented by illness from attending but who received a telegram with the conference's best wishes and greetings;

Philip L. Coleman, '23, Partner, Duff and Phelps, who presided at the conference luncheon;

Dwight K. Taylor, '26, Western Division Manager of Connolly, Inc., and President of the M.I.T. Club of Chicago;

Robert C. Guinness, '34, Executive Vice-president, Standard Oil Company of Indiana, who presided at the morning session;

F. Richard Meyer, 3d, '42, Past President of the M.I.T. Club of Chicago, who was chairman of the conference;

Robert C. Meissner, '43, of J. F. Meissner Engineers, Inc., who was co-chairman of the conference;

Dean Joseph C. Boyce, Vice-president, Illinois Institute of Technology;

Theodore V. Houser, a special term member of the M.I.T. Corporation, chairman of the Board, Sears, Roebuck and Company;

Lawrence A. Kimpton, Chancellor, University of Chicago.

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## EVOLUTION IN COMMUNIST WORLD

*(Continued from page 298)*

tion of thinking youth — their restless desire for real integrity and honesty in their society — must deeply concern a regime which needs their services and shapes its claims to allegiance on an ideology.

### The General Crisis of Communism

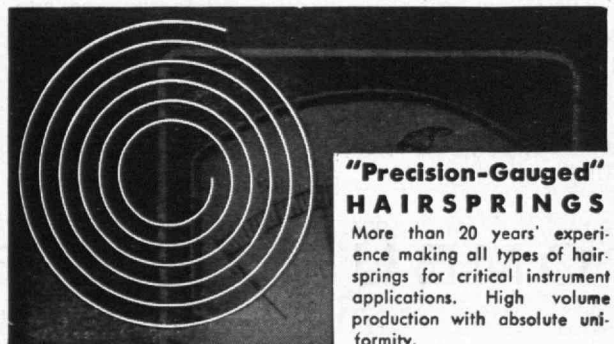
For many years now that ideology has predicted the doom of capitalism — recently with a little less assurance as to the date of Doomsday. The Communist leaders have not, however, given up the dogma that World War I marked the beginning of a new epoch which would witness the general crisis of capitalism. According to all good Communists, this general crisis would embrace many individual crises caused by wars over markets and colonies, by workers' revolutions in protest against economic depressions, and by capitalist greed. These "inner contradictions," the doctrine preached, would inevitably lead to the collapse of capitalism and the triumph of the Communist system.

Today, with a great deal more assurance, we can advance the thesis that it is they, rather than we, who face a general crisis. A Yugoslavian Communist, Milovan Djilas, alerted the world to this crisis of Communism in his famous article of last November. He said this: "Despite the Soviet repression in Hungary, Moscow can only slow down the processes of change; it cannot stop them in the long run. The crisis is not only between the U.S.S.R. and its neighbors, but within the Communist system as such. National Communism is itself a product of the crisis, but it is only a phase in the evolution and withering away of contemporary Communism . . . World Communism now faces stormy days and insurmountable difficulties."

With the flood of self-questioning loosed by the anti-Stalin crusade and by the events in Hungary and Poland, the Soviet system certainly evidences inner contradictions that are harder to cope with than anything now facing the non-Communist world.

The Soviet leaders have been trying for some time now to cover up the cracks in their ideological plaster by talk of a "return to Leninist norms of party life." They tell their people to avoid the "cult of personality" by going back to Lenin for guidance; but is not

*(Continued on page 324)*



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## EVOLUTION IN COMMUNIST WORLD

(Continued from page 322)

this a new "cult of personality"? And who is to say what part of Lenin is to be kept and what rejected? Why should they not follow the advice Lenin gave in May, 1917, that: "If Finland, if Poland, if the Ukraine break away from Russia there is nothing bad about that. What is there bad about it? Anyone who says there is, is a chauvinist. . . . No nation can be free if it oppresses other nations."

### The Challenge to the U.S.S.R.

No regime could stand still in the face of events such as those of the past few years. Sooner or later, the challenge facing the U.S.S.R. at home and abroad must be met.

A well-known passage in Toynbee's *Study of History* is relevant to the U.S.S.R. today: "The unanswered challenge can never be disposed of, and is bound to present itself again and again until it either receives some tardy and imperfect answer or else brings about the destruction of the society which has shown itself inveterately incapable of responding to it effectively."

What is the shape of the society which might develop out of the evolutionary forces presently at work in the U.S.S.R. if the Kremlin leaders do not blindly seek to reverse them?

Domestically, the U.S.S.R. would take cognizance of human dignity in its society. Censorship of thought

would be eliminated and greater emphasis placed on satisfying the economic wants of the individual. Here it must be noted that the U.S.S.R. has taken a forward step in doing away, at home, with the special tribunals and some excesses of the secret police.

In the foreign field, such a development would require the U.S.S.R. to accept a genuine co-operation with other nations as distinct from the tactical, Leninist idea of a temporary truce. It would have to concede to those lands it has occupied the freedom of political choice. It would have to assume a constructive role in the United Nations.

Of course, such an outcome is not yet in sight. The future is still cloudy, and the possibility of an attempted reversion to a hard line remains.

Nevertheless, the reality of pressures for change is undeniable, and they seem unlikely to diminish with the passing of time. An evolutionary accommodation to these forces may even be more likely than the convulsive developments which the history of the *ancien régime* in France or the Roman Empire might lead one to expect.

### Continued Danger

Of course, it would be folly to assume that international communism is on the verge of collapse. It continues to possess and develop increasing physical power; and we face the very real danger that it may bolster up its position in two particularly sensitive areas.

(Concluded on page 326)



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## EVOLUTION IN COMMUNIST WORLD

(Concluded from page 324)

The first of these is, of course, the Middle East where a general policy of aid, infiltration, and stirring up troubled waters offers considerable prospects for creating serious mischief.

The second area of danger — which is perhaps not receiving as much public attention as it deserves these days — is the Far East. Communist China, during the past few years, has been posing an ever-increasing threat to many nations in the area which are relatively unsophisticated in the ways of Communist subversion. Within the Communist world, the prestige of Communist China has been relatively enhanced by the fact that its leaders have not been so morally compromised by the revelations about Russia's dictator, Stalin.

### Macaulay's Prophecy

While there is no justification for complacency in the Free World, there are some real signs of hope. Sporadic success abroad will not change the basic problems within the U.S.S.R. if we correctly assume that the evolutionary process has started. And even in Communist China, as revolutionary fervor dims, the reaction may come as man's reaching for freedom and human dignity asserts itself.

In a prophetic speech in 1833, Macaulay spoke words which might well be pondered by the leaders of the Communist world as they face the problems that lie before them today. Macaulay was urging his countrymen not to shrink back in fear from the possibility that education and modernization would lead the people of India to seek independence.

"What is that power worth," asked Macaulay, "... which we can hold only by violating the most sacred duties, which, as governors, we owe to the governed? We are civilized to little purpose if we grudge to any portion of the human race an equal measure of freedom and civilization. . . . do we think that we can give them knowledge without awakening ambition? . . ."

And Macaulay concludes: "It may be that the public mind of India may expand under our system till it has outgrown that system; that by good government we may educate our subjects into a capacity for better government, that having become instructed in European knowledge, they may at some future age demand European institutions. Whether such a day will ever come I know not. But never will I attempt to avert or retard it. Whenever it comes it will be the proudest day in English history."

When the day of freedom for Russia and the peoples under Soviet rule may come, no one can prophesy. But when it comes, it will be the proudest day in Russian history. If that day is to be hastened, we cannot afford to be timid in asserting profound faith in our democratic institutions, and in acting decisively on that faith. I sincerely believe that the time has come when no reasoning, thinking peoples with freedom of choice can continue to believe that Communism is the wave of the future. The lasting, enduring values are in our free way of life.



# ALUMNI AND OFFICERS IN THE NEWS

## New Posts . . .

In addition to the 10 elections and appointments recorded on page 287, other Alumni recently advanced are listed below:

ALDEN H. WAITT'14, as advisory board member of the American Chemical Society News Service in New York . . . CHARLES P. BOWEN, JR.'35, as coordinating partner for the Eastern Region of Booz, Allen, and Hamilton, management consulting firm, New York . . . EUGENE J. MACKEY'39, to president of the St. Louis Chapter of the American Institute of Architects.

WILFRED MERCHANT'39, to the newly established Chair of Structural Engineering of the University of Manchester, England . . . ROBERT S. EDWARDS'41, to engineering manager of Sperry Gyroscope Company's Hustler program, dealing with air armament . . . J. LESTER KLEIN'41, as assistant technical director of Nuclear Metals, Inc., Cambridge, Mass.

JOSEPH H. MYERS'41, as general superintendent of the Riverdale Plant, Acme Steel Company, Chicago . . . BERNARD S. RECKSEIT'43, as chief engineer for Ransohoff, Inc., Hamilton, Ohio . . . CHARLES E. ARNOLD'44, as manager of Sylvania's Avionics Laboratory, Waltham, Mass.

CARL E. DENGLER'47, to research manager at the Yerkes Research Laboratory of the Du Pont Company in Buffalo . . . JOHN F. STEDJE'48, to director of Systems and Procedures Department of Automatic Transportation Company, Chicago . . . DANIEL R. MASON'50, as manager of the Data Processing Installation Division of International Business Machines, New York.

## Physical Papers . . .

At the 1957 Annual Meeting of the American Physical Society at New York City, January 30 through February 2, the following papers were presented by Alumni and staff members of M.I.T.:

"The Excitation of Plasma Oscillations" by WILLIAM P. ALLIS'23, staff; "Excited States of  $Ni^{88}$  and  $Ni^{90}$ " by WILLIAM W. BUECHNER'35, staff; "Zeeman Splitting of Nuclear Quadrupole Energy Levels in a Single Cuprite Crystal" by DUDLEY A. WILLIAMS'35; "Ferromagnetic Resonance on Truncated Spheres of Single Crystals of Manganese Ferrite" by ALBERT M. CLOGSTON'38.

"Study of  $Cu^{65} (p,n) Zn^{65}$  Reaction by Conversion Electrons" by EVERETT M. BERNSTEIN'44; "The Detection of Imperfections in Crystals" by BENJAMIN L. AVERBACH'47, staff; "Elastic Scattering of  $\pi$  Mesons by Nuclei" by WINSLOW F. BAKER'48; "Charge Analysis of Helium, Neon, and Argon Single Collisions at Energies to 100 kev." by EDGAR EVERHART'48.

"Three-Body Nuclear Interaction in

$K^{40}$ " and "Stripping Reactions and the Structure of Light Nuclei" by JAMES B. FRENCH'48; "Gyratron—A New Solid State Quantum-Mechanical Amplifier" and "Hyperfine Structure and Line Width in F-Center Spin Resonance" by MALCOM W. P. STRANDBERG'48, staff; "On the Magnetic Annealing Effect in Cobalt-Substituted Magnetite Single Crystals" by LAWRENCE R. BICKFORD, JR.'49.

"Neutron Resonance Parameters for  $Sm^{147}$ ,  $Sm^{149}$ ,  $Gd^{155}$ , and  $Gd^{157}$ " and "Fission Cross Section of  $U^{235}$ " by REX G. FLUHARTY'49; "Relative Production of Unstable Particles in Iron by Proton and  $\pi$  Mesons" by HERBERT S. BRIDGE'50, staff; "Search for Electric Monopole Pair Transitions in  $C^{12}$  and  $Ca^{48}$  Using a Scintillation Pair Spectrometer" and "Excited States in  $O^{18}$ . II. Gamma-Emitting States below 12 Mev." by KARL E. EKLUND'50.

"Hyperfine Structure Anomaly (HFSA) of  $Sb^{121}$  and  $Sb^{123}$  Measured by the Electron Spin Double Resonance Method (ESDR)" by JOSEPH EISINGER'51; "Relative Production of Unstable Particles in Iron by Proton and  $\pi$  Mesons" by ELIHU A. BOLDT'53, staff; "Cross-Section Measurement at Very High Energy" by ALFRED E. BRENNER'53, staff; "Half-Integer Spin in General Relativity" by DAVID FINKELSTEIN'53.

"Complex Potential Model with Diffuse Boundary and Surface Absorption" by HERBERT J. AMSTER'54, staff; "Electronic Wave Functions for the Hydrogen Fluoride Molecule" by LELAND C. ALLEN, staff; "Relative Production of Unstable Particles in Iron by Proton and  $\pi$  Mesons" by DAVID O. CALDWELL, staff; "Some Aspects of the Structure of Nucleons as Deduced from Electron Scattering Experiments" by BERNARD T. FELD, staff.

"Magnetization Processes in Single-Crystal Cobalt Ferrite with 'Sticky' Walls" by SIMON FONER, staff; "Domain Treatment of Order-Disorder Theory" by LOUIS GOLD, staff; "Angular Distributions of Gamma Rays following Electric Excitation of Some Low-Lying Rotational States" by BENJAMIN C. GOLDRING, staff; "Some Problems of Unsteady Boundary Layer Flow" by CHIA-CHIAO LIN, staff.

"Relative Production of Unstable Particles in Iron by Proton and  $\pi$  Mesons" by YASH PAL, staff; "Excited States of  $Ni^{88}$  and  $Ni^{90}$ " by CORNELIS H. PARIS, staff; "Exchange and Super-exchange Coupling between Conduction Electrons and d Electrons in Magnetic Materials" by GEORGE W. PRATT, JR., staff; "Energy Dependence of the  $K^{+}$ -Meson Interaction Cross Section" by DAVID M. RITSON, staff.

"Pion Production in Pion-Nucleon Collisions" by LEONARD S. RODBERG, staff; "An Experiment on Air Showers" by BRUNO B. ROSSI, staff; "Scattering of Electrons by Impurities in Metals" by LAURA M. ROTH, staff; "Interferometric Measurements of the Laminar Boundary Layer on a Shock Tube Wall" by RAY J. RUETENIK, staff.

"Angular Distributions of Gamma Rays following Electric Excitation of Some Low-Lying Rotational States" by ROLF P. SCHARENBERG, staff; "Energy Dependence of the  $K^{+}$ -Meson Interaction Cross Section" by ROBERT A. SCHLUTER, staff; "Polarized Beam Neutron Diffraction Spectrometer" and "Polarization Neutron Studies on Antiferromagnetic Single Crystals" by CLIFFORD G. SHULL, staff; "Cross-Section Measurement at Very High Energy" by ROBERT W. WILLIAMS, staff.

## Obituary

CARLTON E. DAVIS'92, January 29\*†  
HENRY W. GORE'93, October 22, 1956\*  
WILLIAM C. BLAKE'94, December 29\*  
WILLIAM T. HALL'95, January 4\*  
EDWARD A. TUCKER'95, February 7\*  
WARREN G. CHAPMAN'01, November 17, 1955\*

CARL F. JOHNSON'01, February 2\*  
DANA H. FISHER'02, November 16 1956\*  
ALFRED R. C. GATZENMEIER'02, December 22, 1956

REDFIELD PROCTOR'02, February 5\*  
PAUL M. PAINE'04, January 29\*  
JOHN C. FRAZEE'06, May 10, 1956\*  
JAMES H. KIDDER'06, July 7, 1956\*  
FLORENCE H. HAYWARD'07, March 24, 1956

CONRAD JACOBSON'07, September 21, 1955

CYRUS H. LOUTREL'07, January 13\*  
LOUISA B. STEVENS'07, November 25  
UTAR J. NICHOLAS'08, April 14, 1952†  
ARTHUR K. POOR'08, November 11, 1956  
WILLIAM R. REILLY'09, January 9\*  
BANCROFT HILL'11, January 5\*  
NORMAN L. BOWEN'12, September 11\*  
NICHOLAS T. McNEIL'12, January 7\*  
SHERMAN R. RAMSDALL'13, January 9  
WALTER P. BOATWRIGHT'16, January\*  
KARL E. ENGSTROM'16, February\*

HERBERT L. BONE'17, October 24, 1956\*  
DWIGHT P. THOMPSON'17, November 21\*  
VINCENT S. HARRIMAN'18, January 23\*  
AMORY L. WILLIAMS'18, December 24\*  
VICTOR T. GIVOTOVSKY'19, October 13\*  
JOHN S. WHALEY'19, September 30\*  
JAMES H. DODGE'21, October 27, 1956\*  
FRANCIS T. WHITWORTH'21, January 16\*  
DENHAM D. HALL'22, December 5, 1956  
WILLIAM A. GALLUP'23, January 14\*  
FRANK W. GILMORE'26, December 8\*  
GEORGE B. LAMB'26, September 20\*  
HAROLD WILLOUGHBY'26, December 22\*  
AUGUSTUS J. WELLINGS'27, not stated\*  
THOMAS K. VINCENT'31, September 9  
CHARLES E. SCOTT'35, October 17, 1956\*  
CLARENCE J. WILLIAMS, JR.'35, December 24, 1956\*

HENRY W. HOFMANN'41, September 18\*  
JOHN S. AREND'42, January 15\*  
ARTHUR R. FRITHSEN'42, November 6\*  
DONALD P. CAMPBELL'43, January 15\*

\*Further information in Class Notes  
†Also in Philadelphia notes  
‡In 1906 notes

# NEWS FROM THE CLUBS AND CLASSES

## CLUB NOTES

### Central New York

We have two meetings to report this time. Our November 14 meeting was held at Sherman's Restaurant in Syracuse, where we had Professor James B. Reswick as guest speaker to tell us about the latest methods employed in teaching graphics at Tech. Due to severe competition from two technical society meetings the same night (the A.S.M.E. met in the very next room!), attendance was low. The meeting, therefore, took on the informal air of a lively "bull session," with Professor Reswick leading the discussion. We found that the emphasis today has been placed upon creating in the student the ability to communicate in the graphical medium, and the ability to solve problems by graphical methods where other methods are inadequate. Gone are the hopes of making first-rate draftsmen out of engineers. Graphics has now become an elective subject, so that Professor Reswick has to make sure that the problems he gives his students create a high interest and have a definite relationship to the students' future professional subjects. Some of the examples of problems he cited left no doubt that these objectives were being accomplished.

Our discussion also centered upon the character of students now at Tech. Professor Reswick stated that now, more than ever before, Tech is attracting superior students with greater direction and more varied interests. We could notice an understandable glow of pride coming from the direction of Educational Council members Ed Gruppe and Ed Moyer at this comment.

On January 15 we met at Tubbert's Restaurant for a special ladies'-night program. Twenty-three members and their ladies braved the below zero cold to enjoy a delightful social evening, the feature of which was a showing of colored movies by Colonel C. H. M. Roberts'17, of the Far Eastern portion of his recent one-year trip around the world. Colonel Roberts' films dwelt in detail upon the temples of Cambodia, the most spectacular of which were the structures of the city of Angkor Vat which was discovered in the late 19th century, and is now only some 20 per cent recovered from the blanket of jungle growth which hid it for many years. This remarkable city was once inhabited by more than 1,000,000 people, the Khmers, who mysteriously vanished almost overnight.

At this meeting, Luke Hayden'41, speaking for Fred Barker'12, announced the coming in March of the area Alumni Fund drive, the object of which this year is to establish a scholarship for a deserving student from this area. On behalf of Fred, Luke earnestly urged everyone's

support. — GREGORY G. GEBERT'50, *Secretary-Treasurer*, 33 Trelign Drive, N. Syracuse, N.Y.

### Chicago

Nearly 500 people turned out February 16 for the Mid-America Conference held by the Club for the Institute. The conference, the second held in Chicago, informed Alumni, friends, guests, and industrial leaders of the new frontiers of science. Both the morning and afternoon sessions had notable and interesting speakers. Professor Walter C. Whitman talked on the "Development of Nuclear Engineering Education" in the morning, and was followed by Professor John E. Arnold who talked on "Education for Innovation." The afternoon session featured Deans Pietro Belluschi and E. P. Brooks who talked on "New Horizons for Architecture and Planning" and "Today's Plans for Tomorrow's Management," respectively.

After a reception, dinner was served in the Bal Tabarin room of the Sherman. There we were privileged to hear President Killian, followed by the featured speaker, Allen Dulles. As public appearances by Mr. Dulles are extremely rare, it was a great honor to have him at the conference. His talk was extremely interesting, and carefully listened to by all.

Of particular honor to the Chicago group was the award at the dinner of a certificate of honor by the Alumni Association to two of our members. Both James M. Barker'07 and Robert E. Wilson'16 received (in absentia) this honor for meritorious service to the business world, Alumni, and humanity. We of the Club add our congratulations and thanks for their unselfish service. Honors are due the committee, headed by Dick Meyer and Bud Meissner, for the excellent job they and the many who helped did in putting on a very successful and top-flight show. — JACK C. PAGE'48, *Secretary*, Abrading Systems Company, 7354 N. Clark Street, Chicago 26, Ill.

### New Bedford

The Tech Club of New Bedford (note that these staunch individualists have never changed the name of the group) held their winter meeting at the Wamsutta Club in New Bedford on December 5, 1956. The Club voted to sponsor in conjunction with the New Bedford Textile and Technological Institute a lecture by a leading member of the M.I.T. faculty for the purpose of advancing the interest in the field of science in the area.

The members were entertained by a showing of the pictures of the hydrogen and atomic bomb tests, with a narration by Mr. Tallman Randolph through the courtesy of Edgerton, Germishausen and Greer. It was universally agreed that the meeting was one of the most successful

held in recent years. — ALBERT R. PIERCE, JR., '31, *Secretary*, Delano Road, Marion, Mass.

### New York

The M.I.T. Club of New York has set aside the months of April, May, and June for class reunions as well as get-togethers for fraternities and industrial "course" groups. Alumni desiring to participate in such reunions should contact Eugene R. Smoley'19, Vice-president. Mr. Smoley can be reached care of the Club, or at the Lummus Company, 385 Madison Avenue, New York City, where he is also a vice-president. The Club quarters, at the Chatham Hotel, 48th Street and Vanderbilt Avenue, New York City, offer excellent facilities for a quiet and genial party. Of course, dining and bar service are available.

F. S. Lincoln'22 has had an exhibition of his dye transfer, professional color photography work for industry at the M.I.T. Club quarters. The 20 by 24 inch prints were made by the Color Corporation of America, using the Eastman Kodak dye transfer process. — HARVEY KRAM'42, *Secretary*, 101 Barnyard Lane, Roslyn Heights, L.I., N.Y.

### Philadelphia

Longwood Gardens will be the setting for the Club's Spring Dinner Meeting on Saturday, April 27, 1957. As on past occasions, this event is expected to draw a capacity gathering of Alumni and friends of Technology in celebration of the Club's 60th anniversary. Members' reservations will be accepted in the order in which they are received up to capacity. To avoid disappointment, it is strongly recommended that you make your reservations promptly upon receipt of the mailed announcement which will go out to members about April 1.

H. W. "Andy" Anderson'15 very graciously came to our rescue on the night of our Annual Meeting last January 22, 1957. Our guest of honor arrived over Philadelphia on schedule, but fog prevented the aircraft from landing here and caused our speaker to be deposited hundreds of miles away. Late in the afternoon, Andy met our plea for help and agreed to show his movie films taken on a trip around South America with Mrs. Anderson. We are very much indebted to both Mr. and Mrs. Anderson for entertaining the members with their films and telling something of their experiences on this fascinating journey.

The following officers and members of the Executive Committee were elected at the Annual Meeting for the year 1957. Samuel K. McCauley'41, President; Kenneth S. Lord'26, First Vice-president; William H. Bertolet'3d'48, Second Vice-president; Wiley F. Corl, Jr.'39, Third Vice-president; Herbert R. Moody'41,



Secretary; Charles W. Hargens, 3d, '41, Treasurer; Robert L. Hershey '23, Robert M. Harbeck '28, William W. Pleasants '33, John B. Murdock '41, Robert G. Fisher '44, Arthur H. Kuljian '48, James L. Dwyer '54, members of the Executive Committee.

It is with regret that we record here the passing on January 29, 1957, of an old friend, Carleton E. Davis '92. He was for many years an active member of the Club and a staunch supporter of Technology. At the time of his death, Mr. Davis was vice-president and a director of the Philadelphia Suburban Water Company of Bryn Mawr. — SAMUEL K. McCauley '41, *President*, P. O. Box 298, Upper Darby, Pa. HERBERT R. MOODY '41, *Secretary*, 8609 Patton Road, Wyndmoor, Philadelphia 18, Pa.

## Puerto Rico

The M.I.T. Club of Puerto Rico had its first reunion of the year in the form of a dinner meeting at the Chandelier Hall of the Escambrón Beach Club in San Juan on Saturday night, February 9, 1957. Twenty-six fellow Beavers and wives attended the affair and enjoyed themselves talking about mutual experiences, and dancing until the wee hours of that night. — A. C. KAYANAN '42, *Secretary*, P.O. Box 9447, Santurce 29, Puerto Rico.

## Rochester

High light of our activities for the year came on February 18 when the Club welcomed President Killian to his first Rochester visit. Dr. Killian addressed 20 of the top industrialists in the Rochester area at a luncheon on the subject, "Training and Demand for Engineering Personnel."

That evening a dinner was held in Dr. Killian's honor attended by some 85 members of the M.I.T. Club of Rochester and their wives. V. N. Hansford '37, President of the Club, was in charge of the dinner, and C. L. A. Wynd '28 was toastmaster of the evening. One of the high lights of the evening was the report by Fred Kolb '38 on the results of the Alumni Fund personal solicitation campaign just completed in our area. This year we obtained 70 per cent participation for the fund as compared to a figure of 40 per cent for last year's campaign. Fred Kolb '38, in charge of the campaign, was assisted by the following vice-chairmen: R. M. Wilson '30, R. N. Geil '34, W. E. Summerhays, Jr., '41, D. E. Babcock '33, W. N. Hosley '48, R. E. Smith '33, A. S. Hamilton '35. Some 270 Alumni in the area were personally contacted during the campaign. — JAMES K. LITWITZ, *Secretary*, 191 Rogers Parkway, Rochester 17, N.Y.

## Southern California

The annual meeting of the M.I.T. Club of Southern California was held at the University Club in Los Angeles on January 16, 1957. The program, which featured movies of Admiral Byrd's South Polar expedition, was part of the Club's International Year series for 1957. They were presented with commentary by Mr.

Sola of G. O. Noville Associates. Commander George Noville, who accompanied Admiral Byrd on this expedition, was not able to speak because of illness.

New Club officers and members of the Board of Governors for 1957 were elected and installed at this meeting. James S. Cullison '41, our new president, accepted the top office very graciously from Anthony Thormin '27, who now joins the Club's list of past presidents. Other officers elected were Robert Welles '15, First Vice-president; Jay Zeamer '40, Second Vice-president; Joseph Marshall '52, Secretary; Homer S. Davis '24, Treasurer; David E. Long '51, Assistant Secretary; and Hiram E. Beebe '10, Archivist. Elected to the Board of Governors were Anthony Thormin '27, Immediate Past President; Raymond B. Stringfield '15, James T. Holmes '14, and William H. MacCallum '24, Governors-at-Large; Philip K. Bates '24, Classes 1922-1926; George M. Cunningham '27, Classes 1927-1931; Page E. Golsan, Jr., '34, Classes 1932-1936; Andrew F. Kay '40, Classes 1937-1941; Lloyd L. Balsam '44, Classes 1942-1946; Howard A. Zwemer '47, Classes 1947-1951; Leslie N. Reynolds '55, Classes 1952-1956.

Members present at this meeting were: W. W. Baldwin '39, Hiram E. Beebe '10, Chauncey F. Bell, Jr., '38, Karl Bergey '51G, A. Bertsch '46, Robert Bryer, Paul Buckingham '48, Robert Creek '47, Bernard S. Coleman '19, James S. Cullison '41, George M. Cunningham '27, M. Le Duc '27, Homer S. Davis '24, Mr. Dedrum '34, John Delmonte '34, R. S. DeWolfe '36, Morley Drucker '51, P. E. Golsan, Jr., '34, Paul Gomez '42, William R. Hainsworth '21, Robert E. Hiller '31, John Hugus '47, Barton Jones '23, Phillip D. Jones '47, Francis Kurris '46, Dave Long '51, C. S. Lorens '54, T. Gary Loomis '44, Samuel E. Lunden '21, William C. Lynch '12, William MacCallum '24, C. Lauren Maltby '22, Joseph W. Marshall '52, William R. Mason '41, Charles Papas '41, Dirk A. Plummer '52, Frank Reed '24, J. W. Reis '19, Lieutenant L. N. Reynolds '55G, George H. Rhodes '12, Russell Robinson '32, George V. Schlietett '36, E. Schuettner '51, Hal Seykota '39, C. Skladal '44, Captain Frank W. Taylor '43, Anthony Thormin '27, Robert Welles '15, W. L. Whelen '42, Ed Wright '52, Frank A. Yett '40, Jay Zeamer '40, Howard A. Zwemer '47. — JOSEPH W. MARSHALL '52, *Secretary*, 904 W. Hyde Park Boulevard, Inglewood, Calif.

## Washington

About 75 members and guests attended our last dinner meeting held at the Cosmos Club, on January 24. Our special guests at this meeting were Professor and Mrs. Erwin H. Schell. Professor Schell spoke to us on "Recent Activities at M.I.T.," liberally sprinkling his talk with a goodly number of anecdotes and interesting digressions, with the main theme the constancy of change. Professor Schell is known to most of us as the head of M.I.T.'s School of Industrial Management and Course XV, Business and Engineering Administration. Professor Schell retired in 1955 and is now professor emeritus and lecturer. He is also a noted author, hav-

ing published numerous articles and periodicals in his field, has served as a consultant to the Department of State in 1944, was awarded the Gilbreth Medal by the Society for the Advancement of Management, is a member of the Corporation of Simmons College, and is a director of Keystone Custodian Funds, Inc., a Boston concern.

Following the talk, there was shown a movie on the SAGE (Semi-Automatic Ground Environment) System of continental air defense, designed and developed by M.I.T.'s Lincoln Laboratory.

The next meeting, scheduled for March 28 at The Cosmos Club, was our annual Ladies' Night. Our guest speaker was Myrtle Cheney Murdock, mother of John Murdock '41, and wife of the former representative from Arizona. She is a noted author and lecturer on the Capitol, and is an expert on "Statuary Hall" in the Capitol.

During the Christmas holidays, our Club held its first annual Christmas luncheon for Tech students in the local area home for the holidays. It was held at the Army-Navy Town Club on December 28. Bill Ahrendt '41, founder and President of the Ahrendt Instrument Company of College Park, Md., gave an interesting and informative talk entitled "Starting and Running a Small Business." From all reports, this was a very successful function, and the Club plans to continue the luncheon as an annual affair. — CHESTER N. HASERT '41, *Review Secretary*, 1300 N. Scott Street, Arlington 9, Va. DOUG COOK '50, *Assistant Review Secretary*, 4305 Rosedale Avenue, Bethesda 14, Md.

## Women Alumnae

The Women Alumnae of M.I.T. met at the Hotel Chatham for cocktails, dinner, and conversation on the evening of November 26, 1956. The high light of the evening was an informal talk by Dr. Marjorie Smith on the activities of a Doctor of Medicine in the field of Public Health. Dr. Smith, a native of Montana, is now teaching at Hunter College and in the public schools of the City of New York. She received her A.B. at Smith, her M.D. at Tufts, and her master's in Public Health at the Institute. Her work has given her an opportunity to travel throughout the world. She talked of her experiences in the many places she has visited. For example, in 1948 she served as physician to refugee children at an International Refugee camp in Munich. An interesting prescription that Dr. Smith brought back from Greece was a prescription for ulcers found on a stone slab dating back to 600 B.C.: "Do not get angry, do not worry, drink milk."

Among those present at the meeting were Mrs. Frederick R. Bentel '51, Kathleen Black '50, J. Elizabeth Clark '54, Elizabeth M. Dolan '34, Mrs. Edward Everett '30, Mrs. G. Fisch '54, Dr. Frances Karlan '42, Mrs. James J. Leff '45, Mrs. E. J. Michal '48, and Florence W. Stiles '21. Our thanks to Elizabeth Dolan, Chairman of our group, whose efforts brought about the meeting. — MIRIAM W. LEFF '45, *Secretary*, 26 East 91st Street, New York 28, N.Y.



## Women's Association

The Saturday luncheon in the Emma Rogers Room at M.I.T. on February 16 brought a group of 34 members and guests together for informal conversation followed by a delicious meal. Among the group were several whom we see infrequently, including Florence Stiles'22, who came up from Delaware, Dorothea Brownell Rathbone'20, and Helen Seirachis from Rhode Island, Marjorie Allen Benedict'35, Dr. Leona Norman Zarsky'41, Dorothy Weeks'23, who now lives nearby, Mildred Lauder Coombs'20, and Margaret Homer Shurcliff'03, who is a moving spirit among the Bell Ringers in America today.

Following lunch the group adjourned to the Hayden Music Library where Professor Klaus Liepmann gave a talk on the place of music at M.I.T. today. He emphasized that present day graduates will be expected to take part in community life where they will need the rounded approach that comes from training in the humanities. He described the courses in music which are being given for credit and the various activity groups which are available to the M.I.T. family, including the orchestra, Glee Club, and Choral Society. Professor Liepmann feels that our Choral Society measures up very well with the choral groups at Harvard and Radcliffe even though there is less practice time available than at the liberal arts colleges. He spoke of the favorable impression created by the Choral Society on its tour in Germany last summer, and the value for M.I.T. in demonstrating to the Europeans that a group of engineers could achieve such a high degree of proficiency. — KATHERINE SALISBURY HAZEN '28, *Recording Secretary*, 81 Clark Street, Belmont 78, Mass.

## CLASS NOTES

### 1891

Ernest Tappan, our lovable and everlastingly faithful classmate, sends me this note: "Dear Channing: As usual, I attended the Midwinter Meeting of the M.I.T. Alumni Association in Walker Memorial on Wednesday, January 30, 1957. Our Class was the oldest one there represented, but, I regret to say, I was the only member present. I sat at the table with Charles E. Fuller'92, Samuel Prescott'94, Andrew Fuller'95, and James M. Driscoll'96. Yours truly, Ernest S. Tappan, 15 Walnut Street, Newtonville, Mass."

The following letter from Charles H. Urban, a practicing attorney at law in Cincinnati 2, Ohio, came to your secretary at the moment our Class was sitting down at the great round table at Brookline Country Club for our annual banquet last June. There were ten 1891 men, and one other, the son of Walter Douglass, making a total of 11. Read this letter of Charles, dear man, who explains how he missed out on being with us. We all send him a pat on the back.

"Dear Mr. Brown: As a matter of courtesy I should have answered your note of

April 9 long ago, and I apologize. First, let me express my deep regret in learning of the accident which you mentioned. It must have been very serious, and I trust that you will soon recover fully.

"Not having remained at Tech long enough to get a degree, I have always considered myself as a sort of outsider. However, I have kept in touch with the Institute by subscribing to the Alumni Fund, the Tech Y.M.C.A., and so on. Rather, I might say that Tech has kept in touch with me by sending various notices and pamphlets. Once having matriculated, Tech never lets go of a fellow, and for some years I have considered it somewhat of a distinction to be connected with Tech, regardless of the nature of the umbilical. We have a splendid Tech club here and occasionally have the pleasure of being addressed by a representative of the Institute.

"Never having attended a Class reunion, I made up my mind to go to the 65th. However, matters arose requiring my personal attention and, therefore, my presence here, a circumstance which I very much regret.

"When I left Tech, I went into the safe manufacturing business here with a concern founded by my grandfather back in 1840. However, the concern was purchased by a competitor, and I then drifted into the practice of the law, in which I have had a modicum of success. I have for many years taken an active part in civic and political matters, and have held quite a few offices in both categories. I could go on and on, but have regard for your patience and write this simply because I feel that I should.

"Let me express my deep regret in not being able to attend the reunion. I would certainly like to see and talk with a bunch of good fellows whom I haven't seen for 65 years. On the night of June 9 at 7:00 E.S.T., I will throw a thought beam out to the Brookline Country Club and drink a solitary toast to the Class of '91. Sincerely, Charles H. Urban." — WILLIAM CHANNING BROWN, *Secretary*, 15 Forest Avenue, Hastings-on-Hudson, N.Y.

### 1892

The Secretary was the only member of our Class attending the Midwinter Meeting of the Alumni Association. At the head table, for Classes 1891 to 1896, were: Tappan'91, C. Fuller'92, Prescott'94, A. Fuller'95, Driscoll'92. We listened to a very interesting program lead by the President of the Alumni Association. Taking part were Chancellor Julius Stratton, General McCormack, Alexander Korol, Everett Hagen, and Dr. Max Milikan.

It is the sad duty of the Secretary to report the death of another of our classmates, Carleton E. Davis, who died on January 29, at the age of 87, at his home in Merion, Pa., after a short illness. He graduated with us with an S.B. in civil engineering. The Secretary is indebted to the Philadelphia *Evening Bulletin* for the following account of his life and activities which was kindly sent to me by Mrs. Newkirk, widow of our classmate and colleague, Walter M. Newkirk.

"Born in Brookline, Mass., he was graduated from M.I.T. in 1892. Since then he had been engaged in the planning, construction, and operation of water supply and waterworks. From 1913 until 1923 Mr. Davis was chief of the old Philadelphia Bureau of Water. He was successively manager, vice-president, and director of the Suburban Water Company from 1925. From 1904 until 1905 he was engineer of waterworks and sewers for the Isthmian Canal Commission constructing waterworks and sewers for the cities in the Panama Canal Zone. During this time Mr. Davis did other engineering work incidental to the program of eliminating yellow fever and preparing for the building of the canal. From 1906 until 1912 he was department engineer for the Board of Water Supply of New York City, in charge of all work and activities of the Board in the Catskill Mountains.

"Mr. Davis was a registered professional engineer in Pennsylvania, and was a member of the American Society of Civil Engineers, and a member and past president of the New England Water Works Association. He was an honorary member and a past president of the American Water Works Association. A sister, Miss Lucy W. Davis, of South Woodstock, Vt., survives." — C. E. FULLER, *Secretary*, Box 144, Wellesley, Mass.

### 1893

We are grateful to Burt R. Rickards, Secretary of the Class of 1899, for a letter to George Glidden, in which he tells about receiving a Christmas card from an old friend — William Rogers Copeland (Class of 1893) of Sherborn, Mass. Mr. Rickards wonders if the fact is generally known that Mr. Copeland is a direct descendant of M.I.T.'s first president and founder. He was superintendent of the Water Purification Plant at Columbus, Ohio, when Mr. Rickards was director of the Ohio State Health Department Laboratories.

We have received word of the death of Henry W. Gore on October 23, 1956. A retired architect, he died in a Marshfield nursing home after a short illness. He is survived by his wife, Mrs. Olive (Litchfield) Gore. — GERTRUDE B. CURRIE, *Assistant Secretary*, c/o Fay, Spofford and Thorndike, Inc., 11 Beacon Street, Boston 8, Mass.

### 1894

The secretary feels contrite that he has so few items to present at the present writing, and is hopeful that a proposed reply card sent to all survivors may bring an interesting grist for the next issue. However, there are two items, quite different in nature, that have come to his attention and will now be presented. If any of the Class happened to read the Boston *Daily Globe* for January 9, their eyes might have been rewarded by seeing a picture of some members of the Newton Symphony Orchestra in action. Prominent was the cellist, none other than our George Owen, who at the age of 86 is participating in the activities of this local group. The orchestra is made up of what

the newspaper called "dedicated amateurs," including housewives, retired business and professional men, and a few members of the high school band, under the leadership of Mr. George Doren. Mr. Doren, a graduate of the Yale School of Music, is in charge of the Newton High School Band, and is a trumpet player in the Boston Civic Symphony Orchestra. It may be at once assumed that our George is greatly enjoying his participation in this really distinguished group of musicians.

The second item to be reported is that William Gaines Blake, who was with us during our freshman year, died at his home, 1101 Ocean Drive, Corpus Christi, Texas, on December 29, 1956. Blake entered the Institute from New Orleans, but for many years had lived in southern Texas. The secretary can give no details as to his career, or information relative to his family, but it is with deep regret that we note the passing of another of the original members of the Class. — SAMUEL C. PRESCOTT, *Secretary*, Room 16-317, M.I.T., Cambridge, Mass.

## 1895

Life has its way of diminishing the ranks of the living, and the graduates of the Class of 1895 are by no means exempt, as we regretfully record the passing of another mate — Edward A. Tucker, Course I, on February 7, 1957.

Tucker took the civil engineering course and drifted into designing and construction engineering for architects and contractors. He laid the foundation for this work from 1895 to 1899 with various architects and contractors in Boston, New York, and Worcester, finally starting his own office in 1899 as president and treasurer of E. A. Tucker Company, Boston, Mass. In 1904 he combined his engineering work with the New England agency of the Corrugated Bar Company's products for reinforced concrete. He was the first one to introduce in New England the use of deformed bars for reinforced concrete. He formed a company in 1912, with direct mill connections, to manufacture a deformed bar of his own development and to sell other reinforcing material. This engineering and design for reinforced concrete structures of all types led to the introduction of several types of long span floor construction now in general use. He was first to introduce in New England such types under his direct supervision. He passed away suddenly at his home, 220 Highland Avenue, Winchester, Mass. As a resident of Winchester since 1901, he was active in community affairs, being a Town Meeting member, a member of the finance board, a member of the Society of Civil Engineers, and the First Congregational Church. Surviving him are a daughter, one son, and six grandchildren.

We noted in the March Review the passing of William T. Hall. We have learned recently that he was assistant editor of *Chemical Abstracts* for many years until August 1956. In 1942 he assumed the duties of science department head at Thayer Academy in Braintree, Mass. As a writer on chemical subjects, one of his best known works was Tread-

well-Hall *Analytical Chemistry*, long used as a text book and reference in two volumes. "Billy" had a habit of collaborating his problems with Mrs. Hall, who is a physiological lecturer, and often quoted to his boys what his wife advised. One day, one of his problem boys finally stated, "I wish your wife was our teacher." This human contact extended throughout his life and career. In 1956 he received a shock which contributed to his passing. — LUTHER K. YODER, *Secretary*, 69 Pleasant Street, Ayer, Mass.

## 1896

At the Midwinter Alumni Dinner Meeting at Walker Memorial, the center front table was reserved for the Classes of 1891 to 1896. Present were: Ernest Tappan '91, Charles E. Fuller '92, Sam C. Prescott '94, Andy Fuller '95, and James M. Driscoll '96. Andy Fuller asked especially for Charlie Hyde, and he was told that Hyde was in Boston on his way back from Dartmouth last June. Chancellor Stratton gave an account of the activities of the Institute and the progress of the new and proposed buildings. A panel led by Dr. Milliken, Director of the Center for International Studies, discussed "Technology and International Relations." Dr. Hagen said that he met an expert technologist, advising Asians on the use of American machines, who gave up because he couldn't get satisfactory results. The Doctor said the expert failed because he did not understand the natives. Probably that is one reason for the establishment of the Center at the Institute. The subject recalls the lectures we had by John Fiske, Professors Dewey and Levermore, and Mr. Brandeis.

Twenty-seven replies have been received from the 97 postals asking, "Please send your present address, an account of what you are doing and of whatever interests you." Mrs. Stevens answers that Erving E. fell on the steps of the Boston Library and broke his hip more than a year ago, and is still unable to walk; his classmates trust he will soon walk again. From Delray Beach, Fla.: "As you see, I am still on deck. My 'Missis' and I have been here for six weeks, but we shall be returning soon to our 800 acre Virginia farm which has been our home and business for the past 44 years, with occasional absences for wars, etc. This old man still rides a horse and participates on rounding up stray steers at 81. Lieutenant Colonel W. H. Clifford, Retired, Chudleigh Farm, Aldie, Loudin County, Va. Best wishes to all of '96."

The casual "wars, etc.," recalls the report of our freshman treasurer. Henry Hedge answers he is in good health, but a little careful on account of a coronary thrombosis in 1927. He has given up golf for salt water fishing in his motor boat; he has three children and eight grandchildren; his wife is not living, but he still maintains his home where he has lived for 50 years, and a camp at Plymouth where he is vice-president of the Pilgrim Society.

George Hewins has been in Wellesley since 1930 (except for five years in California and Oregon, and World War I),

and has been in charge of New England Power Company's field work. At present he is in poor health due to operations. He has difficulty with muscular control of his head, yet he writes a legible hand. Joe Clary writes from St. Petersburg, Fla.: "My life is so uneventful that there is nothing of interest to record. I observe with awe such a stalwart as Marshall Leighton who keeps so active. Still, I am perfectly well, but either from laziness or age I am content to slip quietly down the western slope. Best regards." Joe's work in ship design for the Navy was done in such an atmosphere of hush-hush that he is still under its influence. Stalwart Leighton writes: "I have been at the same old job, at the same old office, and expect to continue for some time because every hydro-station differs markedly from every other, and so I am quite well satisfied in my old age. Tell anyone who wants to know that I am still on earth."

The will of Mrs. Conrad H. Young provides the following in Article Seven: "I give and bequeath \$15,000 to Massachusetts Institute of Technology, to be held by it as a perpetual trust fund under the designation of *The Conrad Henry Young Scholarship Fund*, the income to be used as a scholarship or scholarships for students enrolled in said Massachusetts Institute of Technology." — JAMES M. DRISCOLL, *Secretary*, 129 Walnut Street, Brookline 46, Mass. HENRY R. HEDGE, *Assistant Secretary*, 105 Rockwood Street, Brookline 46, Mass.

## 1897

The following has been received from Jere R. Daniell, West Franklin, N.H., under date of January 9, 1957: "Had your note and one from Wadleigh, but am very sorry to say that I have no news to offer. No little side excursions to the Moon or to Mars and no more distant lands explored than the wilds of Charles Street and Beacon Hill! Today finds us busy writing letters and amusing ourselves with the computations of our U.S. Income Tax return with the problem of how much we may be going to receive in this new year of 1957. All so very interesting and informative! The sun is bright outside. A few flakes of snow fell this morning but stopped early. The RFD mail has just arrived bringing me a volume from a niece in London, England — *My Family and Other Animals* by Durrell. Sounds good but the only 'other animals' around this place are blue jays! Not even a dog or cat! And our small birds seem to have deserted our feeder.

"Had a card, with no news on it, from Billy Wood out in Danville, Calif. I have tried to get him to say that he would try to join us for our 60th, but no soap! Have seen Binley recently and Ned Olin but no other classmates. I think the idea of a quiet luncheon near Boston about hits the bill. Am neutral as to wives. Either yes or no would suit me. A lot of snow on the ground here, and they say that more is coming. Our plowed drive is heaped high on both sides. Sunday morning the mercury hit six degrees below. The coldest here in two years. We were terribly grieved at the news of the passing of Luzerne Cowles. He seemed so well at



the luncheon last summer and so interested in everything. Best to you, Jack, from us both. Hope that we can get a fair turnout next June."

Our request in a circular letter last November for "specific and definite ideas" in regard to our 60th reunion next June 11 brought forth 10 replies only. Eight expressed interest and a desire to attend, another "may come," and one said he probably could not attend. Some of these replies have been published in our notes. The consensus of opinion to date (February 4) has favored a midday luncheon in the neighborhood of Boston. Consequently, a tentative reservation has been made at M.I.T.'s Endicott House in Dedham, the estate bequeathed to Tech by H. Wendell Endicott. Early in May we plan to mail to all on our list full details regarding the luncheon and directions for reaching Endicott House.

Opinions as to attendance of wives inclined to the negative side. Two said their wives could not attend, one was neutral, others made no answer to our query — for what reason, who can tell? Your Secretary Pro-tem at this time is, therefore, forced to the conclusion that the members of our Class wish to continue their long-standing ungallant attitude which does not apply, of course, to those of the fair sex that were members of our Class who would always be welcome without any taint of segregation. — JOHN P. ILSLEY, *Secretary Pro-tem*, 26 Columbine Road, Milton 87, Mass.

## 1898

Tributes to Charles Winslow and Lester Gardner continue to pour in, from which we quote in part, supplementing previous Class Notes.

From the *Register*, New Haven, Conn.: "Mayor Richard C. Lee said, 'I am saddened by the news of the passing of Dr. Winslow. It is a tragic loss to me personally, for I knew him for many years as a friend and public servant who was dedicated to the service of mankind. Guided throughout his life by compassion and understanding of people and problems, Dr. Winslow had few peers as a public servant. He was an outstanding leader in the field of public health, and achieved international recognition in this sphere of endeavor. For many years he was a leader in the cause of public housing for the economically underprivileged. More than any other individual he was responsible for the success of our own local housing program. I join the rest of the community in extending to his family my deepest sympathy in this sad hour.'"

Then followed, in the article, an impressive elaboration of numerous services, offices and awards, concluding with the following paragraphs: "Dr. Winslow was proud of his role as a teacher as much as any other achievement during his life. He estimated that he had trained more than 1,000 students who took degrees in public health. Among this number were many of the leaders in the field, now serving both in the United States and abroad."

He married in 1907 the former Anne Fuller Rogers, whom he met as a fellow researcher and who was his constant ad-

viser and co-worker in the intervening years. They have one daughter, Miss Anne Winslow.

"Friends are requested not to send flowers," read the death notice in the *New York Times*. "Anyone desiring to do so may send a contribution to the New Haven Visiting Nurse Association, 35 Elm Street, New Haven, to be specifically used for nursing care of families of projects of the New Haven Housing Authority." The officers of the Class decided to send a check for \$25 to the New Haven Visiting Nurse Association in honor of our classmate. We have received from the Treasurer of the Visiting Nurse Association an acknowledgment with thanks for the gift of the Class of '98 of M.I.T. to the fund in memory of Dr. C. E. A. Winslow; and further from Mrs. C. E. A. Winslow and Miss Anne Winslow a gracious and illuminating note in which they "acknowledge with great appreciation your kind expression of sympathy and the generous contribution of the Class of '98 of M.I.T. for the Visiting Nurse Association to give service to the people living in the housing projects, in which Charles was so very interested."

Another tribute comes from Murray P. Horwood, Professor of Sanitary Science at M.I.T., and a former student of Professor Winslow. This was prepared for a memorial issue in honor of Professor Winslow of the *Commonwealth*, the monthly publication of the Massachusetts Department of Public Health.

"The death of Professor C. E. A. Winslow leaves a void in the ranks of professional public health workers that will not be filled in this generation. He was one of the exceptionally brilliant stars who emerged from the laboratory of Professor William T. Sedgwick of M.I.T. in the quarter century beginning with 1890.

"Very few men achieve the long array of professional honors that came to Professor Winslow right to the end of his career. He will long be remembered as teacher, investigator, literateur, editor, gifted public speaker, and gentleman. His thorough training in fundamental biology enabled him to make significant contributions to numerous fields including bacteriology, sanitary engineering, health education, industrial hygiene, epidemiology, and public health administration. His work on the physiology of ventilation, the hygiene of housing, and public health administrative practices was outstanding. He summarized the evolution of the coliform test and the work in bacterial variation and clarified their complexities magnificently. He gave the first academic course in industrial hygiene in the United States as well as one of the earliest and broadest courses in municipal sanitation. His command of the English language was exemplary, and he was an outstanding representative of the United States to the World Health Organization and to numerous national and international assemblies.

"In his later years Professor Winslow championed the sociological importance of public health progress. His addresses before the general meetings of the American Public Health Association always inspired his great audiences and gave them a vista of the human signifi-

cance of public health endeavor which no one else could match. He was at heart an eloquent preacher of the gospel of public health. His prose was like poetry which he mixed with vision, erudition, and a convincing array of scientific evidence. Even as early as 1913, I can recall, as one of his students, how he linked the ideal vision of H. G. Wells' *Research Magnificent* with our responsibilities as future practitioners in the field of public health.

"A great voice has been stilled. A great intellect scintillates no longer. A great painter of the future of man has been compelled to lay down his brush. Those of us who knew him and loved him will cherish his memory and be guided by his example and spirit as long as life endures."

Through the kindness of S. Paul Johnston, Director of the Institute of the Aeronautical Sciences and, *en passant*, M.I.T.'21, we have received copies of the December 1956 issues of the Institute's *Journal of the Aeronautical Sciences* and *Aeronautical Engineering Review*, which contain editorials on Lester's passing. We give in part the tribute, "In Memoriam," which sums up so well Lester's inimitable genius.

"We in the Institute owe an incalculable debt to Lester Gardner. His had the vision to see the need for a strong and active association of aeronautical scientists and engineers at a time when air power and air transportation were selling at a discount. He realized the potential value of such a society to the national defense — a concept that needed no argument a short decade ago.

"For L. D. G., vision was but the prelude to action. Never one to 'let George do it,' he plunged into any project that intrigued him with a fervor that left his colleagues and associates gasping. And so it was when he took the Institute under his wing. From the moment of its founding in 1932 to the day he went on inactive duty in 1946, he poured out his boundless energy, day and night, in season and out, to make the Institute the foremost organization of its kind, and, through it, to keep America in the forefront of aviation development. And so — to Lester Gardner — Hail and Farewell!"

Lester received many unusual tributes, just before his passing, on the occasion of his 80th birthday, as recorded in the December 1956 Class Notes. When, in September 1956, the Secretary and his sister spent an evening with Lester at his New York apartment, he had just received letters from Admiral Richard Byrd, Winthrop Rockefeller, and Howard Hughes; wonderful tributes, which made him both humble and happy. He wrote in unique phraseology to the senders of the 500-odd letters he had received: "When one receives flowers while he can still smell them, they are more appreciated than when they are expressions of condolence." Although of practical mind, Lester could also think and express himself in imaginative metaphors.

President Edgerly, in his letter, No. 18, has expressed the tribute of the Class of '98. Letters from the Class have swelled the symphony of praise. Writes William F. Steffens: "Dear Dan Edgerly: Your Class



letters are always welcome, but No. 18 of January regarding the passing of Lester Durand Gardner finds an unusually sympathetic response from all of his classmates. I shall always remember his kindness when he made a personal effort to escort me to the 1948 reunion in his automobile because I was nearly blind with cataracts prior to a later operation that partly restored sight. The matter of transportation was of minor importance as I have railroad privilege as a retired member of New York Central Railroad. It was the kind thought that meant much to me at that time. I could not accept his offer as the important detail would have been moving about in territory so radically changed in recent years. All of our classmates will wish to remember Lester for his many fine qualities."

Dr. Alice W. Tallant contributes the following: "Dear Dan Edgerly: I was so sorry to read in your Class letter that Lester Gardner had died. I am sure that his death means a great loss to the world of aeronautics as well as to our Class, for which he had done so many things. It was quite like him to have been already planning for our reunion next year. I well remember how kind he and his wife were to me at the first Class reunion that I attended."

A new Roster of the Class, started by Lester last fall, has been completed and mailed to the Class by President Edgerly. Slightly more than 100 on the list; an impressive total! For those in the vicinity of Boston, there is the opportunity to attend the entertaining and instructive programs of the M.I.T. Boston Luncheon Club, given once a month, usually the third Thursday, at the Union Oyster House, 41 Union Street, Boston. A fine lunch is served for \$1.25, and there is an opportunity for pleasant companionship.

George Cottle, Fred Jones, and the Secretary attended the luncheon and program of January 17, 1957. The subject was "Unused Reserves of Strength in Metals"; the speaker, Walter A. Backofen '46, Assistant Professor of Metallurgy, M.I.T. It was a most interesting and instructive talk, followed by an active and instructive question-and-answer period.

The 1956-1957 Program — second half is as follows: Thursday, February 28: John Marvin '49, Member, 1956 Olympic Sailing Team — "M.I.T. Sailors at the Olympics." Thursday, March 21: Donald P. Severance '38, Secretary-Treasurer, M.I.T. Alumni Association — "Alumni in Action." Thursday, April 18: Jay W. Forrester '45, Professor of Industrial Management — "New Frontiers in Management Applications for the Digital Computer." Thursday, May 16: Norman J. Padelford, Professor of Economics — "New Roles for United States Foreign Policy." — EDWARD S. CHAPIN, Secretary, The Eliot, 370 Commonwealth Avenue, Boston 15, Mass.

## 1900

Stanley Fitch writes: "The year 1956 has been an eventful one for me. I traveled more than in any one year except possibly when I took my family abroad in 1928. . . . In February I flew to the Navajo Reservation in Arizona for a ten-

day visit with my granddaughter, Barbara Godley, who was teaching in an Indian boarding school, where I became known as 'Grandfather' by 32 young Navajos, age about six. On February 22, Barbara and I drove to Flagstaff, chartered a plane flown by a young man who had been instructing her in flying and flew over the Grand Canyon. After leaving the reservation, I continued my flight from Phoenix to Los Angeles, where I was met by my stepdaughter, Bunty, and her husband, Pete Pringle. We drove to their home at Balboa Island for a delightful four-day visit with the family. Next I flew to San Francisco for a two-day visit with relatives and friends, and returned by air to Boston just in time for the March blizzards.

"In June, my daughter, Katharine Forbes, her husband and I flew to Navajo Mountain School in southern Utah, where Barbara was married to George O. Hartman, Jr., of Flagstaff, the young man who had been teaching her to fly. The wedding was picturesque, not to say spectacular at sundown on June 25, on a hillside at the base of Navajo Mountain in the presence of over 100 Navajo Indians in their brilliant costumes with only about 20 whites present.

"My summer vacation was spent happily at Nantucket (with shorter visits at Chatham and Annisquam). The story of my travels would not be complete without mention of a flight to Burlington, Vt., for a week end with Harry (M.I.T. 1900) and Margaret Grant at Barber Farm in Jericho, and right after Thanksgiving a flight to New York for the golden wedding anniversary party of Harry (M.I.T. '02) and Helen Saylor at Huntington, L.I. In September I became an octogenarian and my Boston partners celebrated by giving me a luncheon at the Algonquin Club. . . . Having long passed the ordinary retirement age, I decided to retire as a partner of the firm (Patterson, Teele and Dennis, Public Accountants), December 31, and again my partners honored me with a dinner at the Algonquin Club, attended by all the Boston and New York partners and their wives. As a material remembrance, the partners presented me with a beautiful mahogany bar which will permanently adorn my house. The bar was thoughtfully stocked with a choice assortment which, of course, in due time will disappear."

Harold Morgan writes: "Mrs. Morgan and I have become so feeble we need more or less nurse attention and so decided to come here (Highwood Retreat, Norwalk, Conn.) to this nursing home. . . . My son had quite a write-up in the last issue of *Fortune* and this year is in *Who's Who*. One granddaughter was graduated from Pembroke last year and leaves next week for a trip abroad and hopes to get some work over there. Harold L. Morgan, 3d, entered Harvard this year and the other granddaughter entered high school."

These notes are being written at Indian Rocks Beach, Fla. It is a cool morning, slightly below 70 degrees, and the surf is pounding on the beach just outside our open windows. Several of our classmates are living near here. We called a few days ago on Charles E. Paul, II, who

has a cooperative apartment in downtown St. Petersburg. We found Sumner Manley in a cozy home at 1913-20th Street, S., where he and his wife spend their winters, going to New Hampshire in the summer. Lewis H. Bullard, II, was at home at 857-23d Avenue, N., and we were very happy to get acquainted with him. Warren Edson, II, lives nearby, but, unfortunately, was out both times that we called. We will see him later. On a visit to Bradenton, we looked up A. C. Walworth, II (apparently this area is particularly attractive to mechanical engineers), who has a very interesting place there. There are others in the vicinity whom we hope to see later. — ELBERT G. ALLEN, Secretary, 11 Richfield Road, West Newton 65, Mass.

## 1901

These notes are written in early February, and I hope that you all have the Class Letter. I shall begin looking for your replies. I received word from the Alumni office of the death of Warren Chapman, VI, in Groton, Conn., on November 17, 1955. This is the only notice that I have had of his passing. The last word that I received from Warren was in June 1952 when he wrote that he had retired and was in good health except that he could see only out of half of one eye.

I know that you will all be sorry to hear of the death of Carl Johnson in Pasadena, Calif., on February 2. This information came from Mrs. Peterson who had a telegram from his private secretary. Mrs. Peterson writes: "Carl had been ill since early November and confined to his bedroom. He sat up for awhile each day and passed his time reading and watching television. He watched the Inauguration Day festivities on that Monday and seemed to enjoy it, but later he seemed restless. That night he suffered a stroke in his left side. He had previously had a slight shock in the late summer of 1951. He had made a long trip with his grandson, and had the shock after he returned home. He wrote to me, but said his hand was shaky. He had corresponded with me more or less ever since." Carl was one of our most loyal and well beloved classmates and we shall miss him.

Mrs. Peterson also writes me that Mr. and Mrs. Henry Chambers sailed for Europe on January 22 for their usual winter visit. The will spend a large part of several months at Marjorca in the Mediterranean. This is one of the Balearic Islands. — THEODORE H. TAFT, Secretary, Box 124, Jaffrey, N.H. WILLARD W. Dow, Assistant Secretary, 78 Elm Street, Cohasset, Mass.

## 1902

I have to record the passing of two of our classmates. Through a letter from his wife it is learned that Dana Hollis Fisher died in Philadelphia on November 16, 1956, of cerebral hemorrhage. He is survived by his wife, Elizabeth S. Fisher, and a son, Robert Gates Fisher, M.I.T. '44. There are five grandchildren. His daughter, Nancy Nix, was stricken with lobar polio in 1954, and passed away the

following year. Dana was long associated with the V. V. Fittings Company of Philadelphia, joining the Chicago branch in 1920, and transferring to the main office in Philadelphia 10 years later where he remained until his retirement.

A more recent death is that of Redfield Proctor on February 6, 1957. In the tradition of his family he had led a busy life working up through the ranks of the Vermont Marble Company to become its president from 1935 to 1952. Likewise, in politics he followed in the footsteps of his father and brother, taking a deep interest in Republican Party politics and, after terms in the Vermont House of Representatives and the State Senate, he became governor, as had his father and brother, for the years of 1923 and 1924. In World War I he was with the Army Engineers as a colonel, commanding the 322nd Regiment.

Proctor's business activities were very broad in scope. He was one of the founders of the New England Council and its second president. He served also as director of the United States Chamber of Commerce and of the National Association of Manufacturers. He held honorary degrees from Middlebury, Norwich University, and the University of Vermont, and was a trustee of Middlebury. He was a life member of the Corporation here at M.I.T., and was for 22 years a member of its executive committee. This experience with the Corporation he characterized in his autobiographical sketch appearing in last December Notes as "the most interesting experience of an impersonal and public nature and one from which I have gotten the most real pleasure."

Proctor is survived by his wife, Mary Sherwood Proctor, and two daughters, Mrs. Joseph Kelley of Belmont, Mass., and Mrs. Katherine P. Maynard of New York, and a son, Robert Dutton Proctor of Brandon, Vt.

The January number of the *Journal of the American Institute of Architects* contains a very appreciative article concerning our Henry Saylor. We quote the opening paragraph: "It is the rare architect indeed of the first five decades of this century whose philosophy, in fact, whose career, was not touched directly or indirectly by the benevolent influence of Henry Hodgman Saylor, F.A.I.A. The hundreds of us who have come within the orbit of his friendship and counsel are grateful for the privilege. We recall those meetings with more than a touch of affection."

The article further states that Saylor is "to lay aside the responsibilities and regimen of the editorship of the *Journal* to devote himself for the next few months to the writing of 'The History of the American Institute Architects,' a task for which he is uniquely fitted and to whose end product we look forward with keen anticipation."

Our 55th Reunion is but a few weeks from the time that you will be reading this, and if you have not already decided to come or want more information than you have received from the notices, ask, and you shall receive; write, and it shall be sent unto you. — BURTON G. PHILBRICK, *Secretary*, 18 Ocean Avenue, Salem, Mass.

## 1903

Your secretary was privileged to attend the Midwinter Meeting of the Alumni Association, at which the growing importance of Technology in international relations was ably presented. Other members of the Class present were J. J. Nolan, who incidentally is engaging in local historical research, and Mrs. A. A. Blunt (Sophie Thayer), who brought as her guests Dr. and Mrs. Stacy B. Southworth. Dr. Southworth was for many years principal of Thayer Academy and can recall many of his pupils who later graduated from M.I.T.

Our thanks are due the M.I.T. Club of Mexico City for a glowing invitation to attend their annual Fiesta held in March. Several of our Class are residents of Mexico, namely, A. E. Place, Chihuahua; J. H. Aguilar, Hermosillo, Son., and J. Gurza, Mexico, D. F. We would welcome more news from our classmates across the border. — LEROY B. GOULD, *Secretary*, 36 Oxford Road, Newton Centre 59, Mass. F. A. EUSTIS, *Treasurer*, 131 State Street, Boston 9, Mass.

## 1904

The sun continues to rise each morning and to set each evening, and it is quite surprising how fast these events occur and how rapidly the time for submission of Class notes gets here. It seems only yesterday that I sent in some for the March issue, and the day for sending in the notes for the April 1957 issue is not only here, but — alas — it is four or five days gone by. Well, here goes with whatever I can find.

To begin with, I have just phoned Gus Munster and Dave Sutton and find them as of today (February 20) in good condition. Gus said he had improved so much that he had discontinued one doctor's visit, and was actively considering going to Florida for a time. Dave Sutton said he is feeling fine now after having a miserable month of January, so we can open these notes with a cheery and optimistic message from two of our members who have not been well in the not-too-distant past.

President Carle Hayward has furnished me with several bits of information and, first, I will give you this letter to Carle from "General" Holcombe, the regional vice-president for Florida and the southeastern corner of the United States. "Dear Carle: Thank you for your good wishes and enclosures accompanying your letter of January 11. We were in Havana last May with a party of Rotarians from St. Petersburg, and experienced all the thrills the M.I.T. Club of Cuba lists as 'events,' and more. We had four days there and brought back many memories of scenes and people new to us — a really worthwhile trip.

"We found the Sevilla much more convenient for sight-seeing than the Nacional, and quite comfortable, though not as glamorous. The view over the Gulf of Mexico is really something from the Nacional, and the casino was new to us, though we did not visit it when it was going full blast. The sights along the Pravda and other streets near the Sevilla

gave us a better idea of Havana than one gets at a big resort hotel like the Nacional. Just at present there is some political disturbance in Cuba that has prevented the Havana Rotary Club from paying us the return visit scheduled for last week, but it will probably be all over by February 22. We flew direct to Havana from Tampa International Airport, and flew back via Miami.

"We had an '04 party here during Christmas week, with Al Coupe, John Marston, and Lewis Newell, all with their wives, for a buffet supper at the Sunset Club and a porch party at our house — it was warm enough to sit outside. I doubt if we will get together at Winter Haven as Guy Palmer is not coming this winter on account of having over-celebrated at his 50th wedding anniversary last June, but you can tell any prospective visiting classmate on the West Coast to let me know when his train or plane gets in, and we will arrange a proper reception. I now expect to be here most of the month of February, but will be back in Washington early in March for a week or two. Yours sincerely, A. M. Holcombe."

In his letter, Holcombe mentions Guy Palmer's 50th anniversary last June, which I mentioned in a previous Review, and gave credit to Bob Palmer's having a 50th anniversary of his wedding, which he has not had yet (so far as I know), but he may get one yet. At any rate I want to set my records right. When Carle sent me Holcombe's letter, he enclosed the following note with it: "I sent the 'General' a notice of the M.I.T. celebration in Havana in February. This is his reply." I also had a notice of the Havana celebration, but received it so late I thought it useless to mention it in these notes.

Carle also sent me the following clipping from the Boston *Herald* of January 21, 1957: "Do you remember the child who played the part of Bonnie Blue Butler in 'Gone With the Wind'? She was Eleanore Cammack King, daughter of Dr. and Mrs. Herbert Kalmus of Bel Air, Los Angeles, and Centerville, Cape Cod. On Saturday, she became the bride of Walter Ned Pollock at a noon nuptial mass at St. Martin of Tours Church in Brentwood, Calif. . . . They do things differently in California. At the Bel Air home of the bride's parents, where the reception was held, the all-white theme was continued with white roses and lilies-of-the-valley. A bridal luncheon was served for about 100 members of both families in the Kalmus Theater where the bride's table had a back-drop of sage green silk curtains. A down-to-earth note in this fairy book setting was a surprise shower given by members of the household staff who watched Cammie grow up."

Next come some address changes. As of December 4, 1956, the address of Irving E. Adams is 211 North Main Street, Jamestown, N.Y. The changes of address for Adams came from the Alumni Office, and stated: "Cards had been removed — assumed deceased — but the card from Adams gave his course as 'Course XII, Geology' and his major life activity as a glass consultant." Karl E. Peiler, Box 228, Mystic, Conn. It seems to me that Peiler was living in West Hartford, Conn., and told me at the time of our 50th that they



were building a new home at Mystic, which has evidently now been completed and occupied. Karl is an enthusiastic yachtsman and has a five-masted cruiser. George B. Farnham, Box 434, Jaffrey Center, N.H. Guy C. Riddell, South Washington Street, Easton, Md. Fred M. Pierce, 219 Sixth Avenue, N., St. Petersburg, Fla.

Carle Hayward received the following note from Harry T. Rollins stating that Harry and Mrs. Rollins sailed from New York on the *Caronia* on January 19 for a trip around the world from which they expect to return next May. They took a shore trip in Brazil from Baleia to São Paulo, and then an all-day drive to Rio. The note was written on the *Caronia* between Rio and Cape Town. They expect to take some cross-country trips in Africa and pick up the ship at Zanzibar and continue to India, Ceylon, Singapore, Bangkok, Bali, Manila, Hong Kong, Tokio, Honolulu, San Francisco, Panama Canal, and New York. He is taking along his movie camera and should have interesting pictures by the time he gets home. We all hope so, and also hope that Harry will exhibit them at some future gathering of 1904.

From a letter dated January 13, 1957, written by Frank Davis to Carle Hayward, we learn that Frank has returned home from a hospital trip for an operation, but at that date had recovered sufficiently to go to his office and also to attend a couple of cocktail parties, and we are all quite sure that Frank has continued to improve.

The next bit of news is not so pleasant, as I am obliged to record the death of Paul M. "Peacham" Paine at his home on 165 Shorecliff Road, Corona del Mar, Calif., on January 29, 1957. Under date of January 30, 1957, I received the following letter and clipping from Roy H. Allen '05 giving some very good details about the death of our classmate, and the clipping from the *Los Angeles Times* gives a good history of Paul's career. "Dear Mr. Stevens: Am enclosing a clipping from the front page of today's *Los Angeles Times* recording the passing of your classmate Paul 'Peacham' Paine—a man who really made good. Doubtless you will receive a more complete account. Some years ago I was intrigued by your address; Whitney Homestead, Stowe, Mass., for my great-grandmother was Eunice Whitney, of Stowe. Very truly yours, Roy H. Allen."

The clipping reads as follows: "Paul McClary Paine, 75, one of the nation's most noted oil geologists, died suddenly yesterday at his home, 165 Shorecliff Drive, Corona del Mar, apparently of a heart attack.

"After his birth in Baltimore and an early education in that city's schools, Mr. Paine was graduated from M.I.T. in 1904. He spent two years in Montana as an assayer and then went to Washington, D.C., where he became a special agent on mineral examinations in connection with land fraud investigations. This job took him to San Francisco, where he remained until he resigned in 1910. Late that same year, Mr. Paine married Olivia E. Newman in the Adobe of the Mission Inn, Riverside, the same place the bride's par-

ents had been married. The newlyweds went to the Buena Vista Hills district, near Taft, where Mr. Paine had a position with the Honolulu Oil Company. He became superintendent there in 1914.

"After the birth of the couple's daughter, Maya, in Los Angeles, the family moved to Tulsa, Okla., where Mr. Paine had a position with the Gypsy Oil Company. He left that company in 1919 and began a career as an independent oil engineer and geologist. He gave a series of lectures at M.I.T. in 1921, and in the years thereafter lectured in many universities all over the world. In 1921, Mr. Paine also became a director of the Union Oil Company and, during that same year, he represented both parties in the merger of the Percy Rockefeller group and the Shell Oil Company. A year later, he was appointed vice-president of the Shell Oil Company of California to organize its production department. Having accomplished that within a year, he resigned and returned to his private consulting practice which he continued until his death. In this practice he was consultant and appraiser in the reorganization of the Richfield Oil Company and also for 20th Century-Fox studios.

"From 1938 until 1954, Mr. Paine was a director of the Kern County Land Company, acting as its consultant in all oil matters. He also was a part owner and director of the Formax Oil Company. In addition to his widow and daughter, now Mrs. Maya Paine Miller of Long Beach, Mr. Paine leaves two grandchildren, Eric and Carson Ann Miller."

Also under date of February 5, 1957, I received from Ernest K. Parks, Petroleum Production Engineer, 306 North Cliffwood Avenue, Los Angeles, the following letter. I shall be glad indeed to receive the data which he says he will send me, and I shall ask him for a copy of the obituary which he is to write. When I receive them, I shall share them with you all. "My dear Mr. Stevens: Paul 'Peacham' McClary Paine, M.I.T. 1904, died at his home at Shorecliffs in Corona del Mar, Calif., on January 28, 1957. His widow, Olivia Newman Paine, has asked me to prepare a memorial obituary, which I proposed to have published in the *American Association of Petroleum Geologists Bulletin*. Meanwhile, local papers will carry special articles, and these I shall send to you as secretary of Class of 1904. Perhaps you would wish to write to E. A. 'Shorty' Holbrook, 1543 Shady Avenue, Pittsburgh 17, who knew Paul years and years ago. We here shall miss him. He can never be replaced. Sincerely yours, Ernest K. Parks."

I have received letters from Gus Bouscaren, our Class agent, and from R. O. Ingram commenting on the death of Peacham Paine. With Ingram's letter came another copy of the clipping from the *Los Angeles Times* which I got from Allen, and a letter from Shorty Holbrook to Ingram, and I quote from Holbrook's letter: "Paul Paine's daughter sent me the enclosed. Another account refers to him as 'The Dean of American Oil Geologists.' Not much to say, except that another link is severed. We had kept in touch with each other. You will remember Peacham was of the Class of 1904 for

three years, and then took some special geology subjects which delayed his graduation for a year. He, however, always considered himself a member of 1904 (and is so carried in the Register of Former Students as XII, S.B. 1904). Paul had prospered financially beyond most men; perhaps more than any of our classmates I have known about. He was individualistic in his thinking and actions. His many donations and good deeds were never advertised."

Such statements from one who had kept in touch with him over the years are good to read. Paul was active in undergraduate affairs, being possessed of a good voice, and took the part of a sourette in the Tech Show, "The Grand Duke," in his freshman year, from which he earned and kept the nickname "Peacham." I remember him well, as we were both members of the Freshman Band organized by Ned Broad, and he also played in the Mandolin Club. I am indeed glad to be able to give you such a good account of our late classmate.

That about finishes the news for this issue. Of course, as always, I hope for more items for the issues to come. We never know what will turn up. So far the winter has not been too tough, but with as little winter weather as we have had so far, we have had enough to suit me. So long for now from your secretary. — HENRY W. STEVENS, Secretary, 1082 Commonwealth Avenue, Boston 15, Mass.

## 1905

Andy Fisher still insists that I am missing a bet by not adopting his idea that we should have a humorous section in the '05 notes, so as to brighten up the type of gloom I seem to be dispensing. I agree that personal items of a humorous nature would interest you fellows, but all I get of this nature are regarding Andy's grandchildren, and mine say such smarter and more prodigious things that I do not wish to humiliate him. However, if you fellows will send in personal, humorous (or any old kind) of items, we'll put them through the laugh meter and act accordingly.

Present at the Midwinter Meeting at Cambridge on January 30 were Leonard and Mrs. Cronkhite, Sam and Mrs. Shapira, Henry Buff, Arthur Balkam, and myself. This seems like such a grand opportunity for a Class get-together (and besides partake of a splendid meal and enjoy a fine program), that we should have a much larger turnout. Make it a point next February, will you? Another rather impromptu gathering occurred at the M.I.T. table (a daily affair) at Thompson's Spa last week. President Kenway, Vice-president Ayer, Andy Fisher, Sam Shapira, and myself present; no official business done but fat (not on the menu) was chewed. Hub is planning another business trip to Ireland and England soon. Also, Hub, Grove, and Mrs. Marcy were about to leave for a Virgin Island vacation. Sam was planning to visit his son in Italy, but just learned that Norman's tour of duty (Chemical Warfare) there was terminating at once and he was returning home. Andy was going to Milford, N.H. These fellows sure get around.



And while we're on the go, Prince Crovell and Edith left home January 26 for a two and a half month tour of Florida, Key West, Venice, then a week on the shanty boat *Lazy Bones* up the Calahooche River, then a month in Clearwater. He took a list and promised to call on all '05 men in Florida, so the Class notes in June should be interesting. Dan Patch '02 just notified me that his brother, Ralph '05, was quite sick at his winter home in Florida. Dan also gave me a new address for Barry C. Eastham, VI—namely, 598 N.E. 56th Street, Miami, Fla. I talked with his brother in Cambridge, who said that Barry was well and had moved to Florida permanently; that while he had not shown it particularly, he was still much interested in M.I.T. and '05. Florida men please note. Joe Daniels, III, now re-established in his old home, 5816 Vassar Avenue, Seattle, Wash. (after a three-year job in India), writes: "The Daniels family all well and enjoying the relaxation of being a retired old couple."

Mrs. Francis White of Somerville, S.C., Ray's widow, has established the Ray Hill White Memorial Fellowship to provide scholarship assistance for needy students. It seems this is only one of several she has established in Ray's name. Bertrand Johnson, III, in response to my request, looked up a few delinquents (not financial) in his neighborhood without much luck. However, he gives me this story about himself. "In May of 1952 when I retired, the Bureau of Mines gave me a party one afternoon, a good one, surprise party, at which they presented me with a nice Hallicrafter short wave set. Several months later at an afternoon ceremony I was given a citation and an honor award certificate of meritorious service, both signed by the Secretary of the Interior, the Department's silver medal and lapel button, and a lifetime pass to the National Parks." The citation for meritorious service recognizes 47 years of continuous service.

Saw Frank Carhart, I, last week. He said he was in very good health and active, flies to Texas and similar distances frequently in connection with his work as senior partner of Jackson and Moreland, consulting engineers. Have tried to reach Bob Folsom, X, by phone several times, but failure makes me infer he may be in Florida. Gil Joslin, XIII, is at his accustomed winter haunt in Florida.

Saw Roy Lovejoy at his plant in Lowell sometime last week. He and Andrea were just about to take off for her old home in New Orleans for a few months' visit. Roy said that he had heard from a mutual friend in Pittsburgh that Bruce Hill is alive, but no further details. You doubtless received Bob McLean's report of January 24 as Class agent. It was very convincing and fairly complimentary to the Class for its standings, but Bob's urge that you do even better is well grounded and the aim worth while.

It is good to be able to close these notes this month on a high level, and, with your help, we hope to be able to do more of the same in the months that follow. — FRED W. GOLDTHWAIT, *Secretary*, 274 Franklin Street, Boston, Mass. GILBERT S. TOWER, *Assistant Secretary*, 35 N. Main Street, Cohasset, Mass.

With the two-month interval between the writing and the reading of Class notes, this will be a tardy report but, for the record, only five men attended the Mid-winter Meeting at Walker on January 30. Your President and Secretary had a conference during the afternoon at the Faculty Club where Tom Hinckley joined us. For the steak dinner (from a buck up to \$1.75), Charlie Kasson and George Guernsey made the five. Charles brought along a guest, Roger Hunnewell, Tufts '18, whom Jim found to be a kindred spirit in connection with Arlington town affairs. Jim is no longer on the School Committee but is presently chairman of a special committee to study their fire alarm system, presumably with the expectation, or hope, that they can show how to save the taxpayers some shekels.

After we had polished off the victuals, George kept us entertained during the intermission by circulating a succession of the Kodachromes he had taken at graduation, Snow Inn, and Alumni Day—for which he had thoughtfully brought along a small viewer. It was a fine record of those events, clear and in color, which you can anticipate seeing at the next get-together, along with others taken by our "shooting" classmates. The talks by the director and three members of the M.I.T. Center for International Studies were interesting and informative and, to me, at least, were not entirely reassuring in regard to United States foreign policy and the method of applying our economic aid efficiently. Sherm Chase had expected to be on deck as usual, but he and Bertha were returning from New York and planning to leave a few days later for a lengthy southern trip, stopping at Jacksonville, Daytona, and Miami to check on work in progress. He didn't know then what other places they would visit, so some of you sun bathers may have seen them before this reaches you.

It isn't often nowadays that we have a wedding to report, but a clipping has recently been received of the marriage on November 12, at Coral Gables, of Miss Agnes C. Dwyer of Stoughton to William A. Sheldon of Alma, Colo. According to the ten-year history, Bill was married in 1914 to Lura M. Howard while he was mine operating and leasing in Alma with Glacier Gunnison Company and Sinking Fund Mining and Leasing Company, having previously been with the American Smelting and Refining Company in Mexico. Like most of the Course III men, Bill has stuck to his profession and most of the time to Alma, in the 1930's with Miller, Anderson and Sheldon and, later until he retired, a partner of Sheldon and Parker. In the First World War Record, he is listed as superintendent of Barstow Lease, Ironton, Colo. The newspaper account of the wedding goes on to say, "Mrs. Sheldon is a graduate of Bates College and Boston University College of Liberal Arts. She was a teacher for many years in Girls Latin School in Boston and recently retired. Mr. and Mrs. Sheldon will spend several weeks in Sarasota awaiting completion of their new home in Homestead, Fla. They will live in Florida much of the year, spending the

summer months at Sandwich Downs, Cape Cod, and in Alma."

You may recall that in the December Review it was stated that the Chases were planning to stop in Pittsburgh on their return from California to attend the annual meeting of the American Society of Civil Engineers, at which time an honorary membership was to be awarded to George Burpee. In that connection, a clipping from the November 15 issue of the Houlton, Maine, *Pioneer Times* has just recently been received covering that award and George's career in some detail, in part as follows: "George W. Burpee of Bronxville, N.Y., a native of Houlton and son of the late Mr. and Mrs. Moses Burpee of this town, was signally honored at the recent annual meeting of the American Society of Civil Engineers in Pittsburgh, when he was made an honorary member of the society. Eminent in the various fields of transportation engineering since his graduation from M.I.T. in 1906, Mr. Burpee is currently senior partner in Coverdale and Colpitts of New York, one of this country's outstanding engineering consulting firms."

He attended the public schools of Houlton, graduated from Ricker Classical Institute at the age of 16, and in 1904 from Bowdoin with a Phi Beta Kappa. Not being listed in the '04 and '05 *Techniques*, he evidently entered Tech in our junior year, being one of the 60 or so graduate (special) students who chose to be affiliated with 1906, and was a member of the Civil Engineering Society, Technology Club, Mandolin Club, and Class Day Committee. His thesis was "A Study of Failures of Concrete Structures." After a year or so as draftsman in the office of the chief engineer of the Lehigh and New England Railroad Company, George was with Westinghouse, Church, Kerr and Company until 1920, becoming field and valuation engineer, except for a short break in 1911 with Mackenzie, Mann and Company, Ltd., in construction of Canadian Northern Ontario Railroad Company. In 1921 he joined his present firm, becoming a partner in 1924. "His responsibilities have included the valuation of railroad and industrial properties, examination of businesses from the engineering viewpoint, and numerous engineering studies which have been made for railroad consolidations and reorganizations, for mass transit facilities, and for estimates of traffic revenue for more than 200 projects including bridges and express highways. . . . In connection with his numerous industrial interests he has served as president of the General Aniline and Film Corporations, and is now director of the Chase Manhattan Bank, The Kaiser Steel Corporation, Calif., The Lukens Steel Company, Pa., The National Fibre Company, Del., and the Tennessee, Alabama, and Georgia Railroad, of which he is also secretary. He is a member of the Board of Engineering Consultants for the New York Port Authority, and a member of the National Panel of Arbitrators of the American Arbitration Association.

"His professional connections include membership in the Engineering Institute of Canada, the American Railway Engi-

neering Association, and the American Institute of Consulting Engineers, of which he was president in 1942-1944 and served as vice-president from 1952-1953. In his home city of Bronxville he has been president of the Community Fund, a senior warden of Christ Church, a member of the Board of Education, the Board of Zoning Appeals, the Planning Commission, and the Board of Governors of Lawrence Hospital. He is also a trustee of the Cathedral of St. John the Divine in New York City. Bowdoin College awarded him a degree of Doctor of Science in 1939. He is a member of the board of trustees of the college and served as chairman of the building committee for the Gibson Hall of Music completed last year."

You may wonder, as I do, how George has found any time through the years to play his mandolin, or even to get enough sleep! Unlike some other Alumni who were graduate students, he is apparently a believer in the old motto, "United we stand, divided we fall," as he has always been a loyal classmate and regular contributor to the Class treasury. Judging by the smiling photograph of him in the newspaper clipping, George doesn't appear to have changed very much as compared to his likeness in Senior Portfolio, though his thatch is thinner.

Among the deaths reported in the obituary column in the December 1956 issue is one of interest to many of our Class—that of Uta James Nicholas on April 14, 1952, at his home town of Melbourne, Australia, where he had been retired since around 1940. In his report on his research into our Class history, Tom Hinckley found that U. J. had been assistant secretary under Angelo Heywood during 1906-1908. He had been with '06 during our first and second years, and you may remember what a stunning "girl" he was as Polly Con (an enterprising coed) in "The Scientific King," and as Patty Granite, the millionaire's daughter, in "Simon Pure Brass." He was active in Class affairs during those two years, being toastmaster at our freshman dinner at the Union, and on the Technique Electoral Committee sophomore year. He apparently dropped out at the end of that year, although still around Boston, as he is not included in the '06 and '07 *Techniques*, but his name appears again in the '08 book, with which class he graduated in Course VI, and has since been listed in successive Alumni Registers. Except for a few years on the West Coast immediately after graduating, U. J. has been a consulting engineer in Melbourne.

Another death that has been long delayed in reaching us is that of James Hathaway Kidder, the news of his decease on July 7, 1956, coming through the alumni office from Harvard, where he had received his A.B. before coming to M.I.T. As reported in the February issue, his wife, Marie, had put a note on the reunion registration sheet saying that James was in the Charleston hospital, having had a stroke, from which he evidently did not recover. He was with us only sophomore year, was a broker in New York until around 1932 when he evidently retired to the Green Point Plantation at Yemassee, S.C.

In the same category is John Clifford Frazee who died on May 10, 1956, in Florence, Ariz., where he had been president of Sanctilean University since late in 1947. Dr. Frazee was with the Class only in junior year, being first listed in '06 *Technique* as A.B., Course V, and home address as Sac City, Iowa. We have no address for him until 1935 when he was in Pasadena, then later in Santa Monica, where the 1940 Register lists him as retired. However, his July 1947 address was Sanctilean University, Los Angeles, and in November of that year the university at Florence.

Now for a little nostalgia! The old "Tech Chapel" is no more. The February 3 Boston *Herald* carried the architect's picture of a very modernistic office building to be erected for International Business Machines on the site of the Brunswick Hotel which is being razed. Completed in 1876, "the ornate dining room was officially opened by a 70th birthday party for John Greenleaf Whittier given by the *Atlantic Monthly*." On its register were the names of three Presidents (Grant, Garfield, and Cleveland), also Longfellow, Emerson, Mark Twain, Madam Schumann-Heink, and many other notables from the world of music, art, and literature. The newspaper account didn't mention the bar, which certainly was popular in our day, being just across the street from that favorite perch "on Rogers steps." Traffic (street) wasn't so dense then—it was the sidewalk traffic, however, that we were most interested in, and there was plenty of that.

Only one change of address for your Golden Anniversary directory, that of Shields Burr, I, who is now at 933 Lakeview Avenue, Lowell, Mass. Some of you nomads will soon be formulating plans for a land cruise this spring or summer and, if so, why not drop in on a classmate or two, or three, and, if so, could you write your secretary later a nice long letter telling us about the trip? No news may be "good news," but not for class secretaries. If by chance you get into the Boston area, let us know ahead, and maybe we can put on a party. Hereabouts is beautiful in June, and Alumni Day is Monday, June 10, you know. By the way, have you sent in your dollar or more to Chick Kane, to help make the '06 Alumni Fund contribution 100 per cent? If not, why not do it now?—EDWARD B. ROWE, Secretary-Treasurer, 11 Cushing Road, Wellesley Hills 82, Mass.

## 1907

Did you see the picture of Clarence Howe on page 131 of the February 18, 1957, issue of *Life* magazine? It is one of a group of pictures taken in connection with the 75th birthday party given to Canadian Prime Minister St. Laurent. It is captioned, "Top Minister in Cabinet, C. D. Howe, talks with St. Laurent's daughter, Mrs. Frank Lafferty."

B. Karl "Becky" Sharp has moved from his long-time residence in New Rochelle, N.Y., to 31 East 72d Street, New York 21, N.Y. After a span of nearly 50 years, a brief note was received on January 23 from John H. Link, a graduate with us in the course in chemistry. He writes:

"When we graduated there was a sharp depression. The best I could find was a job with the Department of Agriculture. I didn't like it and stayed only a few months. My principal interest had been rubber chemistry, and I stayed with it until pleurisy with effusion took me to Arizona for a year. I was told by my doctor not to go back into such work if I wanted to live, so I took up teaching in the senior high school in Marion, Ind. I have now retired, but while teaching took advantage of the long vacations to travel to various parts of the world. I have often thought that my illness was a blessing in disguise. Right now my wife and I are packing for a trip to Puerto Rico. I don't expect to be present at our golden anniversary, but I extend my best wishes for a happy time for all there." John's address is 1107 West Sixth Street, Marion, Ind.

Frank MacGregor wrote to me in February saying that a few days previously, John Bradley, with his family, had called on him at Frank's winter home in Tryon, N.C., en route to California and Mexico for a two-month trip. John retired from his work as a metallurgist with The American Brass Company on December 31, 1955. I have a typed tribute that was paid to him at a testimonial luncheon given to him by the Technical Department of The American Brass Company at Hotel Elton in Waterbury, Conn., on December 29, 1955. This relates how John went to work for this company after he graduated from Tech, and how he soon came to be recognized as an authority on the processes of annealing, then on the principles of pickling and cleaning, then on the choice and use of lubricants, then on the quality of water used in brass mill operations, becoming eventually a senior metallurgist. He is now a member emeritus of the American Chemical Society, a senior member emeritus of the American Institute of Mining and Metallurgical Engineers, and a long-time member of the American Society for Metals. For years he has taken an active part in the transactions of these organizations. To the Congregational Church in Waterbury, Conn., the Boy Scouts, the Red Cross, and many community projects, John has given unstinted service. For many years he has been a master beekeeper. John is definitely planning to attend our 50-year reunion in June. If you also attend, you can chat with him personally about his many interests.

Cyrus Henry Loutrel, who was associated for two years with our Class in the course in naval architecture, died on January 13, 1957, in New London, Conn., after a short illness. He graduated from Cartaret Academy in Orange, N.J., and received a Ph.B. degree from Sheffield Scientific School at Yale in 1907. From 1907 to 1911 he was with the American Pulley Company in Philadelphia, and then was factory superintendent of the National Lock Washer Company in Newark, N.J., until 1917, when he became the company president. He was named chairman of the board in 1945, from which position he retired in 1955. He has been a director and vice-president of Hardwick, Hindle, Inc., and a director of Lectrohm, Inc., of Cicero, Ill. He was a



former member of the New Jersey House of Representatives. He had been president of Carteret Academy, and a trustee of the Schools for Industrial Education in Newark. He was a fellow in perpetuity of the Metropolitan Museum of Art in New York, a director of the New Jersey Chamber of Commerce, a member of the American Society of Mechanical Engineers, the Society of Automotive Engineers, the Yale Engineering Association, the Essex Club of Newark, and Mason's Island Yacht Club. He was a vice-president and member of the board of managers of the Half Dime Savings Bank, Orange, N.J. He is survived by his widow, the former Ethel McCluney; two sons, a daughter, and a brother. His home address was Mason's Island, Mystic, Conn.

Charles A. "Chick" Eaton wrote to me in January saying that he was just moving into a new house on a small island that he had pumped in (through the concern, Eastern Engineering Company, heavy construction and hydraulic dredging, of which he has been president and general manager for many years), off Craig Key, about one third the distance down the Florida Keys. He expects to enjoy superfishing in the ocean and the Gulf. His address: Craig, Fla.

Walter Kirby, Lakeville, Conn., has retired from active architectural practice and is devoting his time to oil painting—landscapes and still life. Clifford Allbright, who for many years has been an architect with office at 73 Newbury Street, Boston, has retired, and his home address is 110 Highland Street, Milton 86, Mass. John Kinnear, after living for 12 years in New York City, has gone back to the West, and has bought a home at 1116 Riverside Drive, Los Altos, Calif.

At the time of preparing these notes, February 16, 35 classmates have notified me that they are "definitely planning" on attending our 50-year reunion at Oyster Harbors Club, Osterville, Mass., June 7 to 9, 1957, and 19 others say that they "hope" to be present. There are eight or ten others from whom I have not heard at all, who have been with us at previous reunions or Class dinners, whom I consider as probable attendants. So it looks as though we shall have a good crowd. Some of these men have never attended one of our reunions. Soon after you are reading these notes, you should be receiving definite, detailed information from me regarding this Golden Anniversary Reunion, with registration forms to be returned to me. Remember that this will be an event of your lifetime, *provided* that you take advantage of it. So please mail along your registrations promptly. And we are sincerely hoping that those of you who have not yet contributed to our 50-Year Anniversary Class Gift Fund will be happy to mail to me your checks, made payable to W. A. Hokanson, Bursar, M.I.T.—BRYANT NICHOLS, *Secretary*, 23 Leland Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary*, 18 Summit Street, Whitinsville, Mass.

## 1908

The fourth dinner meeting of the 1956-1957 season will be held at the M.I.T.

Faculty Club, 50 Memorial Drive, Cambridge, Mass., on Wednesday, May 8, 1957, at 6:00 P.M. Hope you can be with us, as we will discuss plans for our Informal Reunion at Melrose Inn, Harwich Port, on the Cape, June 7 to 9 in advance of Alumni Day at Tech on June 10, 1957. This is the same place at which we had such a good time last year.

Rufus C. Folsom was tendered a farewell dinner at the Hotel Statler last December, following his retirement after 48 years with the Boston Refining of the American Sugar Refining Company. He had been manager since 1919. The *Medford Mercury* of December 28, 1956, had an excellent picture of "Bunny" Ames accompanying an interesting article about him and his new book, "Sectional Properties of the Circular Fractions." This book should greatly shorten the labor of computations for aeronautical, structural, and mechanical engineers. Jimmie Burch was the sole representative of '08 at the Midwinter Alumni Meeting at Walker Memorial on January 30, 1957. Jimmie had come East to attend a convention in New York City, and flew up to Boston for the meeting. What had become of the regulars who usually go to the Midwinter Meeting, I don't know; guess the tough winter weather and the fact that when you pass the "three score and ten" home looks pretty good after dark. Jimmie hopes we will have an informal reunion on the Cape in June, and says we can depend on his being there.

George Freethy is one of the busiest industrial engineers I know, but he has found time to build a cottage on the Bass River, down on the Cape. He hopes to have it ready by June. Joe Wattles likes to travel, as you know, so he and Eudora spent several weeks in Florida during January and February. Hope he got some nice Kodachromes. Leslie and Helen Ellis vacationed in Florida during February and March. Leslie planned to see some of our classmates who live there and talk up our 50th Reunion which comes next year. Have you made your subscription to the Alumni Fund for this year? If not, please do so soon. As you know, your subscription will help to build up our 50th-Year Gift to the Institute, so be generous. H.A.S.N.?—H. LESTON CARTER, *Secretary*, 14 Roslyn Road, Waban 68, Mass. LESLIE B. ELLIS, *Treasurer and Assistant Secretary*, 230 Melrose Street, Melrose 76, Mass.

## 1909

There were fewer of us than usual at the Midwinter Alumni Meeting, only seven of our Class being present. In fact, the total number of Alumni present appeared to be much less than normal, there being many vacant chairs. Those of us present were: Jim Critchett, VIII, John Davis, II, Chet Dawes, VI, Frank Loud, VI, Joe Parker, I, Fred Perry, VI, Art Shaw, I. George Wallis, II, who is almost never absent from an Alumni meeting, had started for Florida with Marcia a week or two earlier to be gone three months. There is practically nothing else to report in the matter of news concerning those present.

We have learned from Molly's secre-

tary that he has been away on a professional assignment in Vietnam and was expected to return about February 11. This is another of the many global assignments which have come to Molly during the past few years. Ben, II, and Barbara Pepper are sailing the last of March for Italy, and plan to return early in May. Last fall they spent a month visiting London, Paris, and Switzerland. They have planned a three-month tour around the world a year hence.

Robert S. Gillette, President of the Rock of Ages Corporation, Barre, Vt., sent us a clipping from the *Barre Times* telling of the death on January 9 of William R. Reilly, III, Vice-president of the corporation. Robert prepared for the Institute at the Salt Lake City High School, Utah. After graduation he opened and operated an assay office in Canada, and was instrumental in discovering talc veins that resulted in the reopening of an abandoned talc mine. After working for the Eastern Talc Company for a number of years, he joined the Rock of Ages Corporation in 1925 and was elected vice-president in 1954. Art Shaw, who knew him, inquired for him recently while passing through Barre and learned that he was in poor health. He was married June 15, 1916, in Medford, Mass., to Grace Bacheller, who survives him. There is also a daughter, Elizabeth, and four sons: Colonel William R. Reilly, Jr., Commander Robert F. Reilly, Patrick Reilly, a student at St. Michael's College, and James Reilly of Levittown, Pa. The secretary has written Mrs. Reilly extending the sympathies of the Class to her and her family.—CHESTER L. DAWES, *Secretary*, Pierce Hill, Harvard University, Cambridge 38, Mass. *Assistant Secretaries*: HARVEY S. PARDEE, 10445 Johanna Avenue, Sunland, Calif. MAURICE R. SCHARFF, 260 East 43d Street, New York 17, N.Y. GEORGE E. WALLIS, Wenham, Mass.

## 1910

During the past month I have had some interesting news. The most interesting has been about Karl Fernstrom's widow, Mrs. Fernstrom is executive director for the Cleveland Council of Camp Fire Girls. For 13 years she served as placement officer at M.I.T. where she originated the program which introduced undergraduate students to industry during summer months. Previous to Karl's death she assisted him in his work as consultant in industrial engineering. Since Karl's death she has lived in Houston, Texas, where she began a career in life insurance underwriting. She now lives in Cleveland, Ohio.

Lawrence Chapman, who retired as emeritus professor of naval architecture and marine engineering in 1952, is now living in Princeton, Mass. He has recently been elected to the Princeton Planning Board. The Board is now preparing a zoning law and rulings on the display of signs in the non-business area. Our Greek classmate, Achilles Hadji-Savva, has written to M.I.T. for the answer to a mathematical problem. In his letter he sent his "warmest remembrance to his classmates, Herbert Cleverdon, and Professor Babcock."



When I was on business last week at the New England Division of the Corps of Engineers, U. S. Army, I made my usual inquiry for Carl Lovejoy. If he was busy I would not try to see him, but otherwise would stop and pass a few minutes with him. This time I found that he has retired. At the Midwinter Alumni Meeting the Class was represented by just George Lunt and myself. Usually six or more classmates attend. Probably due to the severe winter we are having here in Boston the regulars attending this meeting had gone to Florida. — HERBERT S. CLEVERDON, *Secretary*, 120 Tremont Street, Boston, Mass.

## 1911

We lost one of our most ingenious and talented classmates when Bancroft Hill, I, died at his home in Baltimore, the city where he was born on May 5, 1887. "Long in the public eye as an executive while heading first the city Health Board and next the Baltimore Transit Company, Ban has been best known in recent years for his untiring efforts to aid the crippled through the practical appliances he invented," said the Baltimore *Sun* in its January 7 issue. It has been our pleasure to report details on many of these applications over the past few years, including devices which would turn the pages of books, permit the blind to give themselves injections, allow one-armed persons to peel fruit and vegetables, and aid youngsters in the use of power tools. Of these the *Sun* said: "Far from considering these mere 'gadgets,' medical authorities said they helped both the body and the morale of those in city hospital wards who received them."

Ban's parents were Charles E. Hill and Kate Watts Clayton Hill, from distinguished Maryland families. He prepared at University School, Baltimore, and attended Johns Hopkins University there for a year before joining us at M.I.T. He majored in railroad engineering and was an active member of the Phi Kappa Sigma fraternity. After four years in railroad engineering, Ban returned to his native Baltimore in 1915 to become president and chief engineer of the Artesian Water Company. His first public post came in 1919, when he was named harbor engineer for the city. Five years later he joined the Baltimore Transit Company, becoming president in 1935 and continuing as company head until he retired in 1945. During Ban's presidency the company underwent a modernization program, which increased its revenue, gave the city added service, and brought the first "streamlined" streetcars to Baltimore.

Following his retirement he returned to private business as a consulting engineer and devoted much of his time to his new-found interest — devices to aid the crippled. He had often written us that he was especially concerned with the problems of crippled children and that he devoted much of his time to working with young patients at the Baltimore City Hospital. He is survived by his wife, Frances Gibbon Hill, whom he married in 1915, and several nieces. In response to a letter of sympathy we sent her, Mrs. Hill wrote: "He had not been ill — went

very quickly and without pain, just the way he always wanted to go. Bancroft was always so proud of M.I.T. I used to tease him and say it was the only thing about which he was snobbish." We have lost a fine, devoted, industrious classmate.

At the annual Institute dinner in Washington, D.C., on May 16, the American Institute of Architects will award its Centennial Medal to Ralph Walker, IV, the Institute announced in early February. Leon Chatelain, Jr., President of the Institute, said the award meant that our classmate was considered by the 11,500 society members to have made "the most significant contribution of any living American architect to humanity and the planning of human environment." This well-deserved recognition of Ralph's remarkable accomplishments over the years is sweet music to Eleveners, for we know he has designed industrial and public buildings, Army bases abroad and industrial communities. Congratulations, Ralph, from your proud classmates!

Unfortunately, an important business meeting here in Framingham prevented my attending this year's M.I.T. Midwinter Dinner at Walker Memorial on January 30 — the first such an event I have missed for a long time. However, our efficient assistant Class secretary, Jack Herlihy, II, reported for Class notes that he and five other Eleveners were at the 1911 table: Henry Dolliver, I, Cal Eldred, VI, Fred Harrington, I, Maurice Lowenberg, VI, and Emmons Whitcomb, X. "Not a news item in the crowd," wrote Jack, "except that Whit had a flier with him setting forth the details of an airplane trip he is arranging for members of his Wellesley Rotary Club to attend the Rotary International convention in Lucerne, Switzerland, the latter part of May." Don't you wish you belonged to that club? They have chartered a Pan-American DC6-B to leave Boston on May 17, enjoy the convention and then sight-see in Switzerland, Paris, Amsterdam, and London before returning home June 2 — all at a mere cost of \$686 per person!

At the January 23rd annual parish meeting of St. Andrew's Episcopal Church (of which my late mother was one of the founders back in the mid-'90s) I was honored by election as Senior Warden for one year, and a few days later Sara was elected treasurer of the Women's Church Service League, having also been named an alternate to the Diocesan Convention at the parish meeting. With a new church and parish house due to be completed prior to Easter Sunday you can well imagine that "my cup runneth over."

Carl Ell, XI, President of Northeastern University, was toastmaster last month at a dinner given in honor of John A. Volpe, former state commissioner of public works, who served for an interim period as federal highway administrator. A familiar face appeared in the Boston *Herald* on January 27, following the annual election of officers for 1957 of the Boston Yacht Club. Among four former club commodores, shown with the commodore and vice-commodore-elect, was Ralph Runels, I, of Lowell.

Once again 1911 is making a good showing in the Alumni Fund for 1956-1957, and according to fund headquarter

figures we now have an active Class membership of 208, with another 87 former students assigned to 1911 as "non-associates." The geographical distribution of the active Class list of 208 is interesting: Metropolitan Boston, 48; balance of Massachusetts, 17; balance of New England, 17 — for a total of 82 in New England. Metropolitan New York, 32; balance of New York and New Jersey, 12 — or a total of 44 in those two states. Balance of Atlantic states, 34; Middle West, 25; Southwest and West, 16 — a total of 75 in continental United States outside the Northeast. With seven classmates in territories and foreign countries, the total active membership is 208, with 40 non-active members in New England; 5 in New York and New Jersey; 26 in the balance of the 48 states; and 9 in territories and foreign lands — a grand total of 295 for whom we have good addresses.

Here's a letter from Paul Cushman, VI, from Oklahoma City, received just as we were about to mail these notes: "Bill Warner, VI (Nowata, Okla.) was standing at the right place to be seen just inside the door at Cimarron Ballroom, Tulsa, February 2, where the M.I.T. Regional Conference was held (of which you read in the March news section of the Review). Bill and I had a great reunion while attending this fine event. There have been three other M.I.T. get-togethers in the last two months in preparation for this 'Salute to Oklahoma's Golden Jubilee.' Professor Warren K. Lewis was the only speaker whom I had had while in Tech. He taught us then that we 'would not be finding oil in the United States after 1945, or thereabouts,' and prophesied we would be using shale rocks of Colorado and/or alcohols for autos in 1946.

"President Killian and Dr. Zacharias spoke at an informal gathering of some 40 Oklahoma City businessmen two days before the conference. Bruce Kerr '51, son of U.S. Senator Kerr, is a hustler about working up Oklahoma City Alumni interest, but the Tulsa bunch has been loyal and active for many years. Until recently there were only three of us from M.I.T. at the University of Oklahoma — now there are six, with two others who have taken special courses there." And so, to bed, *mes confreres!* Follow Paul's example and "Write to Dennie" — then your name will appear here. — ORVILLE B. DENISON, *Secretary*, Chamber of Commerce, Framingham, Mass. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford 55, Mass.

## 1912

Word has just reached us of the death of Norman L. Bowen, Course XII, on September 11, 1956, at his home at 3801 Connecticut Avenue, N.W., Washington, D.C. Word has also just reached us of the death of Nicholas T. McNeil, Course I, on January 7, 1957. Nicholas for 33 years taught at the Salem, Mass., High School. He leaves a widow, and a son, the Reverend Nicholas J. McNeil, S.J., of Portland, Maine, and two daughters; Miss Mary G. McNeil of Salem, and Mrs. Thomas M. Murphy, New London. Eric Kebbon, who is now associated with McKim, Mead and White, has de-

signed the new Harvard Advocate Building in Cambridge, Mass. He gets to Boston occasionally but, unfortunately, I was out of town the last week when he was here. Eric boasts two grandchildren and hopes to give me more details when I see him next. Howard F. Clark, Course I, writes that he is just back from a month in Old Mexico. He is now involved in the distribution of Colorado River water over a large area in Southern California, serving as general manager and chief engineer of the Chino Basin Municipality Water District which encompasses 145,000 acres.

Johnnie Noyes was in Boston last week to attend the funeral of Vernon G. Sloan's widow who passed away suddenly at her home here in Cambridge. John states that although he theoretically retired two years ago, he is now busier than ever, being weighed down with the title of consulting engineer, devoting some of his time to the special problems of the Joy Manufacturing Company, his old employer.

John states that his six children now have their own homes, which leaves Caroline, his wife, to make trips with him. A year ago they were at the Hawaiian Islands and last fall spent a couple of months in the Northwest and Alaska. They make frequent trips to the East and are planning to be at the Snow Inn for our 45th Reunion. John recently had a pleasant visit with John H. Rhodes and Bill Lynch in Los Angeles. Bill and his wife expect to come East for the reunion. John hopes to make it. He is taking off at the end of this month for the M.I.T. Mexico City fiesta in early March. John's six children and eleven grandchildren lead him a busy life.

I hope you are all making your plans to be at the Snow Inn on June 7, 8 and 9, as your friends will all be there. — FREDERICK J. SHEPARD, JR., *Secretary*, 31 Chestnut Street, Boston 8, Mass. LES-TER M. WHITE, *Assistant Secretary*, 1230 N.E. 102d Street, Miami 38, Fla.

## 1914

It was either the cold weather or just the aging of our classmates, because only three Fourteeners attended the Annual Midwinter Greater Boston Technology Dinner at the end of January. The three were Professor Hamilton, Crocker, and Charm. All three have been regular attendants at these dinners throughout the years. Especial note should be made that Louis Charm's son received his doctor of science degree from the Institute at mid-year. Charm, who has been with Stone and Webster for many years, has just retired, but has promptly taken another position, as he put it, "to help pass the time." Crocker, although officially retired, keeps very active on a part-time basis with his former company, Arthur D. Little, Inc. Leicester Hamilton is still very active at the Institute, where he is the executive officer of the Department of Chemistry. Again this year he provided your secretary with these dinner notes.

Al Devine, who has been either with the Registry of Motor Vehicles or its predecessor, the Massachusetts Highway Commission, for over 40 years, has been

appointed the deputy registrar. Al was originally appointed an investigator-examiner, then illuminating engineer, later automotive-equipment engineer and, since 1929, assistant to the registrar. Many who are familiar with his work realize that Al is the technical brains of the Registry. Not only has his work included the standards established for Massachusetts, but he has taken an active part in establishing standards for many states of the Union. In 1924 he was given leave of absence to assist the State of New York in organizing the Motor Vehicle Bureau of that State. Quite aside from his technical work, Devine has a keen legal mind and has been assigned by the Registrar to handle some of his most complex cases.

Like Devine, Ralph Perry joined his organization in 1916. It was The Progressive Manufacturing Company in Torrington, Conn. He was named superintendent in 1920 and 20 years later was named vice-president and works manager. As is the case of most of us, all of this time has passed very quickly, and the first of this year he began his retirement. Ralph plans to remain at his home in Torrington and continue active in his Masonic work, where he is a 32d degree Scottish Rite Mason. He has many other local affiliations. — H. B. RICHMOND, *Secretary*, 275 Massachusetts Avenue, Cambridge 39, Mass. H. A. AFFEL, *Assistant Secretary*, 120 Woodland Avenue, Summit, N.J.

## 1916

Our President, Ralph Fletcher, opens the column this month with this message: "The big party is on! There will be a reunion this June around the time of Alumni Day which is June 10. In March a meeting of the Executive Committee was held in Joe Barker's office in the Chrysler Building, and plans were laid for a dinner for the Class members in the Greater New York Area. A similar Class dinner for the members of the Boston Area is planned for some time around the first of May. These Class functions are being covered by mail notices. In closing, I would like to say that when we had the Class Secretary's job, we thought we were doing a pretty good job, but our successor, Harold Dodge, has certainly showed us that we weren't so spectacular after all. Since he took over last summer, he has been doing a truly outstanding job. Best wishes to all, and we will hope to see many of you at either of the two Class dinners, and the Reunion, and on Alumni Day."

Both your President and your Secretary receive many letters of appreciation for keeping this column alive; this is good compensation. Ralph reports three such letters only recently. One from Gene Barney expresses the hope that with retirement he'll be able to attend future reunions. "The Barney family is still in good health, including one son — M.I.T. Class of 1941 — his wife and three attractive blonde girls. As is the case of others of the Class of 1916, I'm looking forward to retirement (July 1), and plan on traveling, visiting, and developing some more substantial hobbies. My entire time since leaving Tech has been devoted to General Motors in various capacities with

Frigidaire, Detroit Diesel, Allison, and now as assistant to the Group Vice-President in charge of the Engine Group of General Motors — a very busy and enjoyable experience."

Another letter to Ralph came from Raymond Blakney who is president of Olivet College out in Olivet, Mich. He says: "I know that I am not a very good member of the Class of 1916, but always when you do things, I am too busy and too far away to join in. Nevertheless, for what it is worth, I am still doing my best to nourish an interesting college and to make it useful in the education of boys and girls who come to it. The outstanding feature of this year is the building of a wing on the men's dormitory so that we can shelter more boys. I still recall the evening I spent with you at a church supper some years ago and how pleasant it was to see an old friend like you. I hope such an occasion turns up in the not too distant future again."

Wes Blank's letter brings us up to date with his doings in Virginia: "I was disappointed not to attend the 40th Reunion, but my brother (77 years old) was critically ill. Fortunately, he has fully recovered. I did hear from Harold Dodge after Xmas when I and my wife had returned from Cleveland, Tenn., to spend the holiday week with my daughter, her husband, and their three children. Then my son returned from the Azores where he has been in charge of engineering testing of Lages Airfield Runway construction. He is connected with Westchester Testing Company, New Rochelle, N.Y. He has previously been on similar work in Iceland and Newfoundland. Now he has again returned to Newfoundland on a new project, and it is plenty cold there, he states. Harold, in his above-mentioned letter, said that George Maverick was also retired in Charlottesville, and we have seen each other several times. Two weeks ago I was asked by the Dean of the Engineering School of the University of Virginia to lecture and instruct there and, although I enjoy the lazy life of my 160-acre farm in the shadow of the Blue Ridge Mountains, I accepted the job. Now, in closing, I may be able to get some news from Obie Pyle and Bill Liddell, whom I hear from each Xmas, in case you have not already received their own personal replies."

Some time ago, Jack Camp (Ingeniero Consultor) wrote of his pleasure in seeing Joe Barker down in Mexico City last year when Joe went down for the UPADI Convention. (This we reported in the January issue.) He said: "After many years of urging, he finally made it. Fortunately, he was not too tied up on the Convention and was able to accompany me to Toluca for a dog show. This gave me a very pleasant opportunity of having quite a long conversation with him and learning a great deal about his activities. He writes that he also learned something about my activities and the problems we are up against in Mexico."

Just before going to press for the March issue, we had a second letter and a clipping from the *China Post*, dated January 1, 1957, from Joel Connolly. The clipping includes a picture headed "M.I.T. Alumni Visit U.S.S. Saint Paul," and the



caption stated: "Nearly 20 members of the Massachusetts Institute of Technology Alumni Club of Taiwan visited the U.S.S. *Saint Paul* yesterday as guests of Captain Denys W. Knoll, Chief of Staff of the Commander United States Seventh Fleet, and Captain Richard C. Steere, Plans Officer of the Seventh Fleet. Both Captain Knoll and Captain Steere hold Master of Science degrees from M.I.T. ('39 and '41 respectively). Picture shows Captain Denys W. Knoll and Mr. S. M. Lee '19, President of the M.I.T. Alumni Club of Taiwan, cutting a memorial cake on the occasion of the Club's visit to the U.S.S. *Saint Paul*." Joel's letter says: "We were taken in small groups all over the vessel by the officers. We drove to Keelung, the harbor of Taipei, some 18 or 20 miles away, with Dr. and Mrs. Albert Q. Y. Tom '48. He is also a sanitary engineer, works for the World Health Organization, and comes from Honolulu. Wives and sweethearts accompanied the Tech men. As I look back over the past year, many things occur to me that were interesting. One was meeting the president a couple of months ago, in company with the other participants in an environmental sanitation seminar held here under the auspices of the World Health Organization. Sanitary engineers from China, Japan, Korea, Philippines, Sarawak, North Borneo, Guam, Macau (Portuguese spelling; our maps usually show it as 'Macao'), and the United States attended. One from Hong Kong was invited, but was prevented from coming by the riots that occurred there at that time."

Bill Leach reports that he and his wife enjoyed the rare privilege of spending last Christmas with the Bob Wilson's and family, and joining them in the Wilson's 40th Wedding Anniversary on December 22. One of the high lights of the celebration was a special meeting of the 16 "directors" of the "Wilson-Rockefeller-Union Oil Company" in the board room of Standard Oil (Ind.), the "directors" including Bob's and Pearl's three daughters and their husbands, and eight grandchildren. (At the Reunion, ask to see a sparkling picture of this meeting and the unique agenda!) Bill reports that after voting on several resolutions of appreciation, the Chairman distributed the individual directors' fees—20 dollar gold pieces, now legal and worth \$33, if you can get them. After the meeting Bill went with Bob and three sons-in-law to a duck dinner given by General Wood at the One Hundred Club. Later in the afternoon a high tea was given in the Wilson's apartment, and says Bill: "The guests included many of the long-time friends of Pearl and Bob, many from Wooster. Mrs. Florence Tait and I were the representatives of the Wilson's wedding party of 40 years ago; Florence was a bridesmaid and I, an usher." Bill lives in Austin, Texas, is retired, but has been busy with interests in several business ventures, with consulting, and with fruit farming in the summer at Youngstown, N.Y. In 1953 he and Helen visited the Scandinavian countries, and in 1955, Switzerland and Central Europe.

From up in Connecticut comes the news that E. McKendree Hayden has been appointed special assistant to the

president of the Stanley Chemical Company in East Berlin. E. M. H. was elected vice-president, a director, and a secretary of the company in 1936. His successor as technical director of the company was named in the news item. And on the 1st of February, those of us who are in New York saw Steve Brophy's face (captioned, "D'Arcy Brophy") staring at us on the financial pages of the New York *Herald Tribune*. In the advertising section was an article all filled with "Thomas D'Arcy Brophy, Kenyon and Eckhardt chairman," and "Mr. Brophy, national chairman of Advertising Week"; and "Mr. Brophy" again and again. Steve apparently was setting a pattern for stressing the "plus side" of advertising, and his arguments are summarized as "a logical view."

Dina Coleman writes: "A few years ago, all of our children being grown and reasonably self-supporting, thus lessening financial demands on me, I dropped all of the various businesses I had been in, except the Brick Plants, because I did not like to work anyway. As soon as the word got out that Coleman wasn't doing anything, it seemed as though every 'do good' outfit in town brought their problems to his door. So—the Chamber of Commerce, the Lexington Industrial Foundation, Transylvania College, the Fayette County Board of Education, and the Kentucky River Development Association all had things they wanted done. These matters take up more time than I used to spend making a living for the little Colemans, but they are worth while, and anyone should be glad to join with the type of people who make up such boards."

"As of today, the Chamber of Commerce has a new home and about \$100,000 cash balance for future enterprises; the Industrial Foundation has brought five new industries to the town with around 7,000 new jobs, and \$15,000,000 added to the tax rolls for the schools; Transylvania College is out of debt for the first time in over 100 years; the Board of Education has plans, and the money in sight, for five new schools; and towboats as well as screwball boatmen still have use of the Kentucky River, with reasonable assurance that floods will be controlled and soil conserved upstream. It is a nice feeling to have had a small part in those accomplishments. Now, if any group, or group of groups could just persuade the American people that *federal aid* is not only a myth, but the most wasteful and expensive way there is to get anything done, I shall be most happy to join up with them and make speeches (with illustrations from personal experiences with federal bureaucrats in many departments over the past 30 years) on the subject. If Mr. Eisenhower will just follow the line he promised us, all will be well. Everyone should write and remind him, if he ever gets out of the sandstorm of the Middle East long enough to see how to read the letters. The reunion was great even if it was cold, and I am looking forward to next year and the years to follow. The family is well—three married and one with 'that look' in her eye. Two grandchildren and expectations for more. Chief hobbies are (1) avoiding all forms of exercise, (2) elbow-bending and 25-cent poker, (3) reading 17 trade journals each

month, in all sorts of fields—as well as popular magazines and 'whodunits.' Now and then I read a book. And so to bed. Signed, Dina." Thanks, Dina, for some more of that inimitable style—if we could only induce you to write for *every* issue, 'twould be a better column.

Allen Giles came through nicely with a series of comments, reminiscences, and bits of history in response to one of those urgent requests (and we do have requests that are urgent every once in a while) that was sent out some time back. He enclosed a snapshot taken of a group at Oyster Harbors just as they were pulling out last June, with the suggestion that we have it reproduced right in the middle of the Class Notes, for he says, "A picture is worth a thousand words." This suggestion to pep up the notes has been passed along, and we'll see how it goes. Allen goes on to say: "Our 40th Reunion at Oyster Harbors was a natural time in our lives, when the main events took on their true perspective; each classmate knew by then just what he had been destined to accomplish with the training he had received at M.I.T., and had already turned his attention to the careers of his children, who by this time had also children of their own."

"As you know, since 1935, after about 15 years as structural engineer at Stone and Webster Engineering Corporation, I accepted the position of chief engineer at Longwood Towers in Brookline, and have had a most interesting experience in a large apartment hotel with 1,000 rooms, 500 prestige tenants, and an opportunity to meet many of the outstanding captains of industry and their families, at the same time meeting and solving many most interesting problems in engineering and maintenance. My son Allen, Jr., was graduated from Boston University with a degree as master of music, and now serves on the faculty of the University of Buffalo, as head of the Piano Department in their Music School. He is organist of a large Community Church in Buffalo, and gives many recitals as a concert pianist. He is connected with the Amherst Symphony at Buffalo, and at the present time has three lovely little girls. My daughter, Dorothy, attended Wellesley College, married a young Harvard graduate, now in the banking profession, who is most successful. They have two little girls, and live near enough so that we have them with us very often."

Ralph reports a letter from Cy Guething which explains why 1916 assumes responsibility for Eisenhower's victory: "It's surprising the developments which may arise from attending a Class reunion. This is rather late to mention an event of last summer, but one would never realize then that the November vote would be changed as a result of Joe Barker having his picture taken with one Mr. Eisenhower and sending me a requested copy. Now the colored people hereabouts were on the fence, and after influencing a couple who do some work for me to register and get others to do likewise, they were shown the picture of my rich friend presenting the United States the title to one of his West Indies islands for scientific research. That picture was better than a dinner of chitterlings, or hog jowl



and mustard greens, but was given away one only to a couple who would pledge the two votes for Ike. Have had to have four prints made, and Michigan went Republican. Thanks, Joe, for the picture and my associations with 1916 for making me a politician. Have started saving for the next reunion and another bridge lesson from Bob Wilson."

Speaking of Joe, did you see his picture on page 93 of the January 1957 issue of *Mechanical Engineering*? As retiring president of American Society of Mechanical Engineers, he gave an account of his 1956 stewardship in an interesting article, "1956 - Then What?" Now do we think Joe will take a rest? We know better!

Steve Whitney reports that he has been traveling a lot and spending a great deal of time building a new home in Meredith, N.H. Officially, he became a resident of New Hampshire a year ago March, but still keeps his Boston address. He writes: "Ralph Fletcher and his wife flew in a short time ago and they, with Freddie Church and his wife, hired a hotel for the hunting season. We bent an elbow several times before they left, and that is my only contact with classmates, except for a letter from Phil Baker in Detroit." Steve wound up by saying he hoped that there would be a 1957 reunion.

Here's this month's puzzle: *Who Wrote This?* (Bet three out of four of those who attended the 40th need only one guess. See *Answer* in sign-off paragraph at the end of these Notes.) "*Just 1916 all over: So I get born . . . so I go to M.I.T. . . . so I'm in the Class of 1916 . . . so I get married . . . so I - "we" are blessed with a daughter . . . so she gets married . . . so she is blessed with a daughter . . . so I have a granddaughter . . . so she likes boats like gramp . . . so we attend (January 26, 1957) the Motor Boat Show at New York's Coliseum . . . so we are looking at the Evinrude Marine Sauer, a very radical idea, when, of all things, whom do we meet but Dick Hunneman '16, who is also a 'boaty' person (in town from Boston just for the show) . . . so we're glad to report he looked very well . . . seems as if these '1916ers' are of tough fibre . . . who? me?"*

Hovey Freeman has become a totally reliable member of the Executive Committee in the sense that whenever, on two-month intervals, your Secretary asks for a word for the column, he invariably comes across. Late in January he reported that he was leaving Providence for a couple of weeks in Nassau where two of his married children live and where seven of his grandchildren are located. Also: "I have nothing new to report, although I notice that Bob Wilson, who is supposed to be a leader in the oil industry, has fallen down terribly in the production of grandchildren, having only eight as compared to my 17. I do have, however, more in my employ. The only member of the Class I see frequently is Theron Curtis, whom I see almost every day at the Club."

On February 11, Dick Berger was on NBC Television News, Channel 4 in New York, telling experiences with Thomas Edison back in 1917. A week or so earlier, a picture of him in the Sunday (Bridge-

port) *Herald* carried the caption: "Menlo Memories . . . Bridgeport's Richard G. Berger, who worked with Thomas A. Edison, brings his own light to the inventor tribute, at the Burndy Library in Norwalk. Kate Kerr hears Berger explain Edison's original lamp."

We regret to report that Brigadier General Walter Boatwright died in January in San Francisco after a long illness, and that Karl Engstrom died suddenly from a heart attack early in February.

Concluding the column for this month, the *Answer* to "Who Wrote This" is - Jim Evans! He and others are looking forward to the 41st Reunion in June. And once again a word of appreciation goes out to the many who have responded generously to requests for news. Write a little, but write often to: HAROLD F. DODGE, Secretary, c/o Bell Telephone Laboratories, Inc., 463 West Street, New York 14, N.Y.

## 1917

The Midwinter Meeting had its usual pleasant 1917 get-together with the following in attendance: Rudy Beaver, Ken Childs, Chris Crowell, Art Dickson, Stan Dunning, Jim Flaherty, Heinie Gartner, Stuart Gurney, Al Lunn, John Platt, Ed Tuttle, Harry Wansker, Walt Whitman, and Jack Wood.

"Doc" Barnard writes from Wayne, Maine: "I have retired and am living here. It is not very far from Portsmouth, and I'll be on hand for the reunion, fate willing. It will be nice to renew old acquaintances again." Thorndike Saville, Dean of the New York University College of Engineering for the last 20 years, recently announced that he will retire with the start of the 1957 fall term. One reason for his retirement has been the increasing demand for his consulting services in fields of water supply, hydrology, and coastal engineering.

Arthur Miller, now in England, writes: "While it is not probable that it will be possible for me to attend our 40th Reunion, I would like to be posted about it because if I am in the United States at the time I shall, of course, endeavor to be on hand. As you probably know, the only reunion which I have ever attended was our 30th (I believe) which was also held at Wentworth. It is because I have not seen our mutual friends over the years that I would particularly like to participate this year. In any case, you may rest assured that I will try to make it. I do not have much to offer with respect to particulars about myself. At the present time I am managing director of Charles Lennig and Company (Great Britain), Ltd., which is the totally owned United Kingdom subsidiary of Rohm and Haas. We are doing well over here and carrying on an expansion program. The assignment is very interesting to me, and I am enjoying very much the opportunity of living in a 'flat' in the heart of London, address as follows: 22 Grosvenor Square, Mayfair, London, W.1. Moreover, this location is a good take-off point. My wife and I have just returned from a very pleasant Christmas holiday in Taormina, Sicily."

William A. "Sully" Sullivan writes from Japan: "I am actually running a one-man

organization as a consulting engineer. This is due to the fact that it is almost impossible to get qualified or competent assistance out here. I have a variety of interests, and have to spend much of my time in travel. I always look forward to my trips to Taiwan where I almost always find time on Sundays to visit the home of S. S. Kwan '16 at Peitoo in the hills behind Taipei. He has a beautiful home high up in the hills overlooking the plain on which Taipei is located. His home is built on three terraces. From the upper terrace, which leads off his living room, there is a beautiful view of the valley, and on good days one can see the sea 20 miles away. Kwan usually has open house on Sunday afternoons and his friends from Taipei often come out to spend the afternoon and evening away from the heat of the city. On the lower terrace Kwan has installed swings and other attractions for any young children who may come with their parents. The men usually assemble on the upper terrace adjacent to which is a well-stocked bar. The women visitors often gather in another part of the house to play bridge. One very fine attraction at Kwan's place is the hot spring bath. The house is built over a hot sulphur spring, and water through a four-inch pipe flows constantly into a tiled room fitted up for the purpose of taking sulphur baths. One by one the servants call out the guests to notify them that it is his or her turn to take a sulphur bath. Another fine attraction at Kwan's Sunday gatherings is the very fine Chinese dinner which is served in the evening.

Right now Kwan is in Australia where he led the delegation to the Olympic Games from Nationalist China. I have not seen him for a couple of months. On my last trip over I had intended to spend about 10 days, but some difficulties came up that necessitate my leaving the day after I arrived and returning to Japan. I did not have a chance to see him on that short visit, and I deeply regret that I did not take the time to run out to Peitoo, for I have since learned that he was quite broken up at that particular time, for word had just been received of the death of his oldest son in Canada.

"Kwan and I both went to Andover, then on to M.I.T. where we both studied architecture and were on the track team. I have seen him repeatedly over the years. In 1935, Mrs. Sullivan and I spent a delightful month in Pekin where Kwan personally conducted us on trips to the Western Hills and on visits through the building of the Forbidden City. We lived for some years in Shanghai, and Kwan had dinner with us at least once or twice every month during those years. His company, the Kwan Chug Yang Company, was the most important architectural and engineering company in China, with offices in all of the principal cities. In my trips around China during that period I often bumped into Kwan in places like Nanking, Hankow, Chungking, Tientsin, and Hong Kong. The operations of his company are now restricted to Taiwan and to Hong Kong, but in both of these places a considerable amount of the work now being done is done by his company. Kwan himself is semi-retired and devotes a great deal of his time to various public activi-

ties. I can say little about my own activities that would be of interest to anyone. I am just working every day and have developed a situation where I consider that most of the work I am doing is sheer drudgery. I am actually looking forward to the possibility next year of gradually turning my business over to someone else and coming home. I hope that this will be our last Christmas in the Far East. We have been here six years now and I have never had the opportunity of even taking a couple of days off the job."

It is with regret that we report the death of Dwight P. Thompson in Philadelphia on November 21, 1956, and of Herbert L. Bone in Pittsburgh on October 24, 1956.

New addresses: H. Chandler Stearns, 603 East Main Street, Lexington, Ky.; Rear Admiral Louis W. Perkins, 292 Oceanic Avenue, Ft. Lauderdale, Fla.; Dudley F. Holden, 3411 Ramona Street, Palo Alto, Calif. Ken MacPherson of Rochester, N.Y., reports that he is still working on inventions and growing fruit and says, "The cherries, pears, apples, etc., I pick sure do satisfy one's taste."

Following notification that there seems to be almost unanimous agreement that wives be included in the Reunion plans this year, Dudley Bell bewailed the capitulation of the "group in Boston" and has proceeded to voice his objections to wives at reunions. "Getting back to see the boys again will be a great treat, but I understand a small group met in Boston and decided to break our established position of the past by including the women. This does not make much sense to me. Whereas I appreciate that there are some members of the Class who are wife-ridden, I think they constitute a very limited minority. Usually a wife-ridden member is married to a socially-minded woman, and she must be going about from morning to morning with her various activities. When a new affair comes up like our Reunion, it supplies new energy to her tired-out proclivities and she rejuvenates with a new fire of life that is amazing. Such a woman will be found at the Reunion; in fact, there will be quite a few of them. These romping females are particularly annoying to me. They seem to sense that I am unhappy with their presence and make a special effort to create a mental disturbance in my mind. Just as a cat selects the legs of somebody who dislikes cats to rub up against, these women select me to make miserable. Then of course you will also find some wives who frequent the dance floor. Women in this category seem to take special delight in seeking me out when I am nicely relaxed in a comfortable chair, saying, 'Dance with me.' The husband who has suffered much abuse for a great many years is always in the background. He is most anxious to get rid of her so he virtually pulls me up out of the chair by my ears, forcing me out on the dance floor where a terrible experience is inflicted. These same husbands at our Reunion will be writing you in advance insisting upon music and dance because their wives have so ordered.

"In addition, we will have some of the political and career type of women. All the international affairs have been settled

in their minds, but they require arguments. They hunt for men like myself who have the courage to disagree with them. We are their bait and chief delight. Without us they could not operate, so they proceed to destroy a pleasant conversation which we are having together when they will attempt to turn our Reunion into a three-ring circus in which they must be ringmistresses.

"Perhaps the most ridiculous thing I have noticed at M.I.T. banquets where wives are present is the seating arrangement. Every husband is slapped beside his wife. The head table resembles some kind of an imaginative burying ground in my mind, where I see the stiff-shirted husband, not unlike a tombstone, with the wife's stone mounted beside him. Perhaps the proximity of his wife on an occasion when he preferred to be alone has something to do with his stone-like features. Aside from the objections above, there is the most important barrier of all which exists among women. Whereas it is possible to mix men who are even strangers to each other, only a few women are ever happy when tossed into their own unacquainted circles. I am quite sure that the majority of our Class has been wedded to a retiring, somewhat shy, type of woman. This majority would not care to subject a wife to the grueling, two-day punishment of a mess of strange women. Therefore, I appeal to the majority of our Class to maintain its splendid policy of no wives at the Reunion. Ray Stevens has written suggesting that I might have to stage a filibuster. This would be impossible, although I would cheerfully do it if I could. But I feel that all members of our Class should have the right to vote on the matter."

You are reminded that June 7, 8, and 9 are our 40th Reunion dates. The delightful Wentworth-by-the-Sea at Portsmouth is the scene, and plans for a fine reunion are well under way. Numerous men are corresponding with classmates, planning to get together, so why don't all of us work a personalized campaign to meet at our 40th? Pre-registrations are good. Letters from classmates, commenting on Class or Institute affairs — or any other subjects — are always welcome. Let's hear from you. — RAYMOND STEVENS, *Secretary*, 30 Memorial Drive, Cambridge, Mass. W. I. McNEILL, *Assistant Secretary*, 50 East 41st Street, New York, N.Y.

## 1918

Among the precepts diligently impressed upon the young technical student is the need to recognize assumptions, for if the imagination is allowed to run at full throttle, there may be an awakening of an unpleasant sort. Thus, following the distribution of the January issue, came the following note swooping down on my remarks about Max Seltzer and his new poodle. "One small correction — while Max snored warmly 'neath the blankets, it was the Missus who rose, oft times at five on a winter's morn, to teach Ariel her P's and Q's. Genus to genus then?!! [signed] The Missus, seeking pity, not nomenclature." I stand corrected, but still would regret lacking the powerful motivations of imagination.

On January 21 I was in Hartford to address both the Rotary Club and the Connecticut Branch of the Officer Managers' Association. This afforded a nice opportunity to seek out every classmate there. Warren Scott, whose quiet dignity and sweetness has not diminished with the years, was busy when I called at his office, but gave generously of his time and information. To begin at the beginning, he was a chief machinist's mate in the Navy during World War I. When that interlude was over, his undeviating mission in life began with the Massachusetts Health Department. After a year or two he joined the water purification staff of Wallace and Tiernan, only to find himself called back to the Massachusetts Department at a 50 per cent increase in pay over what they paid him before. Then, for a while, he was assistant professor of Public Health at the University of Iowa. After the glory of this rapid shuffling was over, in 1923 he became assistant director of the Connecticut Bureau of Public Health. Two years later he had the top berth, which he has occupied with distinction ever since. At the cost of a little sleuthing we discovered that he holds or has held many responsible elective offices, including: president, director, and honorary member of the New England Water Works Association; past president of the Connecticut section of the American Society of Civil Engineers; past president of the New England Sewage Works Association; president of the Connecticut Public Health Association; chairman of the Conference of State Sanitary Engineers; chairman of the Engineering Section of the American Public Health Association; and so on into the night. At present he is occupied with problems such as difficulties which may arise from radiological pollution of the air and how safely to dispose of atomic waste. It is good that he is busy, for hard work deadens a little the loss he sustained last summer when his wife had a fatal heart attack. The blow was the greater because there were no children to cherish him in his loneliness.

Next, I visited with Bob Swain, President of the R. B. Swain Company, building contractors. He, too, was obviously beset by telephone calls and callers, but gave attention to us with calm concentration even though his original and therefore stronger loyalty is to Williams. His firm builds schools, and churches, and better-class houses. His family was originally two boys and two girls, but the bleak face of man's inhumanity to man killed the younger son when his plane, belonging to the 15th Air Force, was shot down over Austria. The remaining three have so far produced eight grandchildren. With the older son in the business with him, Swain has the freedom denied to younger men. He and Mrs. Swain sailed to Naples on the S.S. *Independence*, leaving New York, February 13. They plan to be gone three months, first visiting Sicily, then by Volkswagen to drive across Europe as the spirit listeth, finally reaching Holland and England. Thence home in May, bringing the Volkswagen with them. Swain remembers Monk Pierce, Wirt Kimball, and Bill Wyer of hockey fame. Last summer he walked



around the campus for the first time in nearly 40 years, and was impressed by the tremendous changes in the old place.

I called on Don Merrill's widow. The whole place gave mute testimony of his loving hands. The letter slot of hammered brass, bearing his name, was obviously something he had made. There were ship models decorating the house, each small dead-eye carefully carpentered to scale by his sensitive fingers. And the ability, leaning this time toward the artistic instead of the mechanical, lives on in his son David. On the living room bookcase is a donkey, bowed down by a prospector's pack, which David carved in beautiful detail. You can almost hear the beast breathe hard, even as you can almost see the dolphins splash in the carving which balances the donkey on the other side of the window. The boy has real talent. He is currently at the New Britain Teachers' College. Sister Judy was married last summer and now lives in Winchester, Mass.

Finally, we tried to see Harold Fitch, Production Engineer for Pratt and Whitney, but the urgent rush of production interfered. However, with the aid of typewriter and postage, Harold did his best under the circumstances, as follows: "I am sorry that I was unable to see you during your visit to Hartford. Unfortunately, I was caught in the midst of a conference and was at the great disadvantage. As to 'news,' I'm sure you knew that I spent many years on various railroads, finally becoming convinced that they offered me no bright future. After a year with a small tool manufacturer, I turned to the typewriter business, spending a dozen years with the local companies. For the past three years I have been in the Production Engineering Department of United Aircraft's Pratt and Whitney Engine Division making things we can't talk about! My wife and I are planning a home on Cape Cod to which we may some day retire. My daughter, her husband, and our two grandsons live nearby, but our son, a first lieutenant in the U.S. Air Force, and his wife are stationed on Okinawa."

Death keeps on its steady tithing. One by one, as Kipling said, "We shall pass and be forgotten with the rest." (The author of the Whiffenpoof song stole those words.) The day before Christmas, Amory L. Williams died suddenly at the Englewood, N.J., hospital. He had been visiting a son. After serving as an officer in World War I, he practiced architecture in Cleveland, Ohio, later in Pasadena, Calif., and finally in Woodstock, Vt., which was his last home and where he served as organist and choirmaster at St. James Church for several years. He was a member and past master of Woodstock Lodge of Masons, a member and past high priest of Ottauquechee Royal Arch Masons, and a member of Palestine Commandery, Knights Templar, Mt. Sinai Temple of the Shrine, American Institute of Architecture, Vermont Registered and Professional Engineers, and American Guild of Organists. He was a former member of the vestry of St. James Church. His wife, the former Mary B. Hitchcock, died in 1938. Surviving are two sons, Amory J., Jr., of Tenaflly, N.J.,

and David B. of Norfolk, Va.; a grandson and two granddaughters. On January 23 Vincent S. Harriman died at his home in Brockton after a brief illness. Much of his professional life had been devoted to teaching in the Brockton High School, but a goodly portion of his heart seems to have been with the National Guard in which he rose to the rank of major, commanding air squadrons at Scotland and Ireland for some months during World War II. At the close of that late international unpleasantness, he was prison officer at Mather Field, Calif. Harriman lived in Brockton for 55 years where he was a member of Paul Revere Lodge, AF and AM, Shedad Grotto, and Southeastern Fish and Game Association. Besides his widow, Marion L. (Crawford) Harriman, he is survived by four sons, three daughters, and 20 grandchildren. Another son, Radio Technician Roger P. Harriman, a bombardier, was killed in Africa in 1943 in World War II. — F. ALEXANDER MAGOUN, *Secretary*, Jaffray, N.H.

## 1919

Lloyd R. Sorenson, in what we think may easily be the leading understatement of the year, writes that "1956 was a busy year" for him. And then he proceeds to prove it: "My oldest daughter, Lucy, was married in June. My son, Lloyd, was married in September. And I was married to Mrs. Winnie Reiser in July." (The italics are ours.) Then he goes on to say, "From August to December I was busy getting 17 new contracts for ships to build, besides directing my regular work as production manager. Effective January 1, 1957, I was appointed vice-president and general manager of the Newport News Shipbuilding and Dry Dock Company." And in a postscript, he adds, "Built new home also." Congratulations on all counts, Lloyd!

Maurice E. Goodridge furnishes the following news and jovial complaints: "I always seem to have two or more of these cards on my desk. With your address on them I can't use them for anyone else. Why don't you send them blank?" But adds, "Shame on me for collecting them instead of returning them at once. My contacts with other classmates is 0. My own story does not change much. Thirty-four years in electric utility work; last 15 years in Worcester. Three years ago we built a new home that we enjoy. 1956 was distinctive for weddings of two of my daughters, and the third one engaged. Still going strong, and five more years until retirement."

Richard Holgren writes from San Diego, Calif.: "We have a new building, so please change my address to 2750 Fourth Avenue. We are having a terrible time trying to keep the place supplied with water, what with the drought and increasing population. We are hoping for a good rain this year; only about five inches since last July 11. Sherwood Page says, 'Haven't seen a classmate in years; where do all the '19ers live?' (He lives in Marshfield, Mass.) He adds that, 'After three years resting up from 35 years of 'work to eat,' I'm back from six months in Newfoundland watching a Canadian

general contractor build one of the six additional Radar (Gap-Filler) Stations for the U. S. Corps of Engineers." He says, "Once is enough, so I'll just wait for something to come along. At 60 one can't run very fast, so maybe it will be another rest period."

The card from J. W. Orcutt inspires one with wanderlust: "Made a trip around the world last spring: Spain, Portugal, Morocco, France, Italy, Greece, Turkey, Egypt, Jordan, Lebanon, Syria, to Iraq (by air-cooled trailer over 650 miles of desert), Pakistan, India, Thailand, Hongkong, and Japan." And, as if that wasn't enough, he was to sail as of February 1, 1957, for all West Africa ports, disembarking at the Congo, following the Livingston trail, East and South Africa, crossing over and visiting most of South America. And he concludes with this incontrovertible fact: "It's a wide, wonderful world." Bon voyage, J. W.; come tell us all about it, when you return.

Frank C. Hoyt's card is brief, but the untold facts must be mighty interesting. He writes: "Now at Lockheed Aircraft Corporation, Missile Systems Division, P. O. Box 504, Sunnyvale, Calif. George C. McCarten sends greetings from Cleveland, Ohio. 'I tried loafing for a while,' he says, 'out in Arizona; got fed up and am back at work again. Same sort of work I did before. Saw Jim Reis last summer; he dropped by here and we went trout fishing. George Fleming has retired; he is having trouble with his breathing.' We appreciate word concerning Jim and the Georges, and hope that George Fleming is feeling much better by this time. In what is practically the irreducible minimum, S. Albert Kaufmann reports, 'No change.'"

Wirt F. Kimball wrote us a letter which covers a number of interesting points, as follows: "Eleanor and I are both well, and I am still actively engaged in my work as manufacturers' agent for equipment in the process industry. Clark, our only son, is still at the University of Maine, a sophomore this year, pursuing his work towards a degree in electrical engineering. He is married and has a son three years old; but the big news is that he and his wife presented us with twin grandchildren last September—a boy and a girl, Bruce and Brenda." He adds that with four years in the Navy behind him, son Clark is "fast establishing himself in many ways." Indeed! Wirt says that he seldom sees any Boston classmates, although he did have a nice visit with Leighton Smith recently. Occasional contact with Ray Bartlett is maintained by correspondence between the wives. Same with Jack Fleckenstein, he says. And adds, "We are already looking forward to the next Reunion in 1959; have made tentative plans for cruises this year and next, but am holding off even tentative plans for 1959 until your plans are made." ('19ers are certainly getting about the world these days!)

Daniel H. Brown of Lebanon, N.H., has been beating the drum for a new girls' college which he hopes to have established in Lebanon. We gleaned this from an article in the Claremont, N.H., *Eagle*, which was sent to us from the



Institute (date, December 10, 1956). The school would be a combination liberal arts college and business school, in a borrowed building and with professional instructors borrowed from other institutions. But they have great plans for the future. And we certainly wish them and Dan the best of luck. Won't you write us, Dan, and let us know how you're making out with your project?

A release from Eastman Kodak's "News" tells us that Earle E. Richardson has retired. For the past 35 years he has been scientist in charge of the Spectrophotometry Department in their Research Laboratory, and is now rated as one of the nation's outstanding authorities on recording spectrophotometry. (He also taught chemistry and physics at M.I.T. from 1917 to 1921.) We would appreciate a card from you, Earle, telling us how you plan to spend time "in retirement."

It is with sincere regret that we tell you that John S. Whaley of Snow Hill, Md., and Victor T. Givotovsky, Washington, D.C., have recently passed away. — E. R. SMOLEY, *Secretary*, The Lummus Company, 385 Madison Avenue, New York 17, N.Y.

## 1920

A welcome note from Dorothea Brownell Rathbone says that she has been in Norfolk, Va., with her daughter and four grandchildren while her daughter's husband is on submarine duty. She enclosed a note from Flossie indicating that Flossie is now three times a grandmother and promising to be present at the next Alumni Day. Flossie was recently awarded the Woman's Medal of Tau Beta Pi.

Bob Bradley has moved from Cambridge to South Dartmouth, Mass. Major General Lyman Whitten is now at the Army and Navy Club, Washington, D.C. Our distinguished classmate, Dean Soderberg, has been speaking at some of the M.I.T. Clubs, most recently to the Fairfield, Conn., M.I.T. Club. As many of you know, Carl Soderberg was awarded the John Ericsson Gold Medal of the American Society of Swedish Engineers, and was also awarded the Exceptional Service Award by the U. S. Air Force for his services in the development of jet propulsion. David P. Brown has been elected treasurer of the Society of Naval Architects and Marine Engineers. He is senior vice-president and technical manager of the American Bureau of Shipping. — HAROLD BUGBEE, *Secretary*, 7 Dartmouth Street, Winchester, Mass.

## 1921

We are honored with most welcome competition in this "person to person" reviewing of the doings of members of the Class of 1921, now that Edward R. Murrow recently televised the famous Mr. and Mrs. John G. Lee of Washington, D.C., and Hartford, Conn. Hope you saw the very interesting portrayal of the lives of these two active people, originating in their Washington home where son Tony, who is in the Army, was a visitor. Mrs. Lee was featured for her seventh

term as national president of the League of Women Voters, and John as the director of research and engineering of Pratt and Whitney Aircraft, Hartford. Mrs. Lee is the daughter of the late Hiram Percy Maxim '86, gun silencer manufacturer, known as the father of the American Radio Relay League, amateur radio organization, and beloved as "The Old Man" of *QST* magazine. Hank Lane, Harold Bixby, Chick Kurth, and your Secretary won't forget his presentation of the "Wouff Hong" to the M.I.T. Radio Society in our undergraduate days. John will be remembered as the author of Tech Show. Currently, his hobby is a project to combine several educational institutions in the Hartford area into a university. The Lees have four children and five grandchildren.

Right on the heels of the Lee telecast came a fine bit of well-deserved advertising for Vice-president Jack Kendall's Bekins Van Lines of Los Angeles by none other than Jack Benny. We have been deluged with clippings of Rufe Shaw's letter to the editor of the *Wall Street Journal*, opposing unions for engineers. Rufe indicated, among other things, that a union wouldn't help an engineer to any great extent, and those who think it will need a psychiatrist, not a union. Harry Field sent a brief note to Chick Kurth, saying that he is planning to attend the special Class reunion in Cuba next February, and our 40th anniversary celebration in 1961. Harry adds that he and Catharine have just returned to their home in Honolulu from the Olympics in Australia. Charles L. Pool, sanitary engineer, finds his professional activities are taking him further away. Located in Spain for some time, he is now practicing in Greece, where he can be reached in care of Ammann and Whitney, Box 522, Athens.

Albert L. Edson has resigned the post he has held for many years as manager of the Boston Airport. He has been elected to new duties as a member of the Massachusetts Airport Management Board. A pilot in both World Wars and a colonel in the Air Force Reserve, Al has been an active flyer for more than 35 years. Commander Robert B. P. Crawford, stationed in Los Angeles for some time, has been assigned to the Office of Naval Material, Washington, D. C. Charles V. Briggs reports his new mail address as Box 154, Lincoln, Mass. Robert S. Cook has made his annual trip from Canandaigua, N.Y., to his Ft. Lauderdale, Fla., residence. James L. Entwistle, who heads his own firm engaged in the manufacture of electrical specialties, says he has moved to a new home at Maple and Oak Streets, Esmond, R.I. Paul L. Hanson has left Minnesota for the sunny clime of Georgia, and resides at 4220 Twin Brooks Road, N.E., Atlanta.

In one of the most interesting, impressive, and well-presented annual reports ever to come from the Institute, President Jim Killian '26 has this to say of his appointment of Jack Rule as Dean of Students: "Since 1936, he has been head of the Section of Graphics and more recently head of the Courses in General Science, General Engineering, and Science Teaching. Professor Rule has worked

2 closely and enthusiastically with undergraduates; he has commanded their confidence and affection and has thought clearly and sympathetically about the whole range of personnel administration which centers in the office of the Dean of Students. We are fortunate in his willingness to accept this new assignment to serve as counselor and protagonist for the students and to co-ordinate the wide range of administrative activities which center in the office of Dean of Students." From the Junior League of the Class of 1921 comes the news that John T. Rule, Jr., eldest of Jack's three sons, married Miss Mary Betty Edmonds, daughter of Mr. and Mrs. Roy M. Edmonds of St. Louis, Mo., on December 27, 1956. Stephen W. Rule, who is attending Bowdoin College, was his brother's best man.

From the Portland *Oregonian* of November 23, 1956: "One result of the Israel-Egypt crisis has been a rise of American stock in the eyes of the Arab world, Portland architect Glenn Stanton said on return from several weeks in the Middle East. Stanton, who left Portland at the end of August, was in Jerusalem the Sunday of the armed uprising in which the French embassy was burned. He said 400 to 500 refugees landed at Beirut the day he flew there from Jerusalem. The Portland architect was one of a 13-member 'jury' invited by the Turkish minister of public works to select the prize-winning design for Turkey's Ataturk University in Erzurum." Two most welcome letters from Glenn Stanton give added details of his trip: "The occasion of my journey was to serve as chairman of the group to select the design for the new university in eastern Turkey to be known as Ataturk Memorial University. There were 23 entrants in the competition, all Turkish architects. The jury was composed of three American architects and ten Turkish architects and engineers. A member of the advisory jury and a most personable native of Ankara, where our deliberations were held, was Cenan M. Sahir '42, who was graduated from M.I.T. in structural engineering. He served most diplomatically and efficiently as our interpreter and made it very simple for me in presiding.

"On my return through Athens, I was invited to attend the lighting of the lamps by the torch on its arrival from Olympus as the preface to the Olympic Games. My trip included Baghdad, Damascus, Amman, Istanbul, Rome, Madrid, and Lisbon. Several of these visits included renewal of acquaintances with architectural friends encountered two years ago. It is easy to find fellow Alumni in almost any country. Professor Raymond S. Ghosn '50 is in charge of the Architectural Department of the Engineering School of the American University at Beirut. He was graduated by M.I.T. in civil engineering and then in architecture. He is doing a splendid job with his students, most of whom are from Lebanon and its adjoining countries. The dean of the engineering school is Weidner, M.I.T. '34, I think. He has a distinguished background at the University of Washington, University of Chicago, and elsewhere. I am not sure if he is the Henry Jackson Weidner listed as graduating from Tech-

nology. It was a pleasure to have tea with the Duncan S. Ballantines at Robert College, Istanbul, where he is president. He taught English and history at M.I.T., then came to Reed College in Portland before his present association.

"One from America must feel most sympathetic for our colleagues in the Mid-East in their lack of materials. While our palette seems unlimited, their creations are principally restricted to masonry of one sort or another. That includes walls, floors, and ceilings. There is little wood or materials which we depend on for warmth or contrast. There are no factories, so the plumbing fixtures and such accessories must be imported, chiefly from Europe. On returning, I stopped at our American Institute of Architects' headquarters, the Octagon House, for a meeting of the Committee on the National Capital, on which I have served as chairman for the past two or three years." Glenn is one of the group of famous 1921 architects practicing on the West Coast. A former national president of the American Institute of Architects and a fellow of that organization, he is the senior partner of the Portland architectural firm of Stanton, Boles, Maguire, and Church. He is an honorary fellow of the Royal Architectural Institute of Canada, an honorary member of the Royal Institute of British Architects, a corresponding member of the Philippine Institute of Architects, member and past president of the Portland City Planning Commission, past president of the Oregon State Board of Architect Examiners, and of the Portland Apprenticeship Council. He has written many articles on city planning. His memberships include the University and Arlington Clubs of Portland, the Cosmos Club of Washington, D.C., Century Association of New York City, Tavern Club of Chicago, Architectural League of New York, and the Beaux Arts Institute. Thanks, Glenn, for a most interesting report.

Bill Sherry of Tulsa, Okla., sent a very attractive brochure on the M.I.T. Regional Conference on Science and Engineering, held in Tulsa last February 2, along with a clipping of a long feature article on the conference from the *Tulsa Daily World*. The day of the sessions was officially proclaimed "M.I.T. Day" in Oklahoma by Governor Gary. Active in the organization and arrangements for this important conference, Bill also served as chairman of one of the meetings. In an accompanying letter he says that son Billy came down from Notre Dame for the conference. It is Billy's third regional meeting. He attended the one in Dallas and last year's St. Louis gathering, and Bill says he gets more out of these meetings than anything he has done. Anything, that is, outside of our five-year reunions, at which Billy is a regular guest, and his brother, Dick, started last June what we hope will be the beginning of a similar series of guest appearances. Inadvertently, we omitted Margaret and Bill from last month's recipients of thanks for their holiday greetings. Also unfortunately omitted was the name of Father Everett R. Harman of Cedar City, Utah. Our belated thanks in both cases.

Dr. Manuel S. Vallarta and Viviano L.

Valdes were members of the special committee of the M.I.T. Club of Mexico for the ninth annual fiesta of M.I.T. Alumni there last month. It is interesting to note in the travel bureau's folder that Mexico City "is twice as near the Equator as, for instance, New York." Ray St. Laurent reports that Marscot Plastics, Inc., had an exhibit at the New York Motor Boat Show, as usual, but he did not see Palmer Scott. As of January 15, our Class Agent, Squire Ed Farrand, says in a note to Ray: "We've been breaking land since a month ago. Corn planting starts about March 1; peanuts about April 15; silage sorghum, May 15. At the moment, we are loading hay for Florida — and praying for rain." Additional address changes include a new one for Herbert A. Kaufmann, RD No. 2, Box 27, Poundridge, N.Y. Major William D. Morrison advises that his has changed to 2208 Westdale Drive, Fayetteville, N.C. Laurence B. Richardson has moved to 1150 The Terrace, Hagerstown, Md. Douglas Weatherston gives his business address as 1419 Alamo National Building, San Antonio 5, Texas.

Edwin T. Steffian, Boston architect and assistant secretary of the Class, has done a top job, as usual, in keeping records of the two last Class meetings in Cambridge, luncheon on January 30 at the M.I.T. Faculty Club and at special tables that evening at the Midwinter Dinner of the Alumni Association. Ted served on a committee of arrangements for these two new affairs on our Class meeting schedule, along with Chick Kurth, Chairman, Josh Crosby, and Joe Kaufman. All four deserve public acknowledgment for what proved to be two most enjoyable affairs. Repeat performances have been requested. Says Ted: "There were 21 at the luncheon, including Rufe Shaw who traveled from Philadelphia. The gathering was very gay. Everyone seemed genuinely pleased with the arrangements, for which Chick Kurth deserves all the credit. Our Class President, Ray St. Laurent, came up from Connecticut to preside. He read a number of interesting letters, including a detailed account from Helier Rodriguez of things we shall have to consider in our contemplated trip to Havana in 1958. This seemed to be the main topic of conversation. Most of the men present were looking for further information about this junket, so I suggested a temporary committee be set up to get the information, distribute it, and then work out something definite for the 1958 Washington Birthday weekend, which everyone seemed to favor. I ended up heading this committee, with Roy Hersum, and Chick Dubé.

"The 40th reunion was the next chief topic. It was the consensus of the meeting that we should make it the important one rather than the 50th, since it coincides with the 1961 centennial of M.I.T.'s founding. The group suggested that we make this winter luncheon an annual affair and hoped that in the years to come we could also arrange for a 1921 cocktail party at 4:00 P.M. at the Faculty Club, just prior to the Midwinter Dinner. Most of the luncheon group met again at the Faculty Club bar about 5:00 P.M. and then went to the dinner, where 19 of the Class sat at tables reserved for us." Ted

enclosed this list of those who attended one or the other of these two gatherings: Mich Bawden, Larry Chellis, Jack Cummings, Chick Dubé, Al Edson, Harry Goodman, Don Hatheway, Roy Hersum, Mel Jenney, Algot Johnson, Joe Kaufman, Chick Kurth, John Mattson, Dick McKay, Phil Nelles, Lark Randall, Ace Rood, Jack Rule, Ray St. Laurent, Rufe Shaw, Jack Sherman, Saul Silverstein, Ted Steffian, Harold Stose, and Frank Whelan.

Chick Kurth sent a final tabulation of the responses to the recent Class letter from Ray St. Laurent, inquiring about your interest in various scheduled gatherings. A total of 34 had expressed interest in the January meetings and 25 attended. Some 55 are now planning to attend Alumni Day on June 10. For the 1958 Havana reunion, there are 71 who have expressed interest, while 87 are including in their schedules at this early date the 40th reunion. There was a total of 106 replies. Chick gives credit to his committee for personally contacting a large number of local classmates for the January luncheon and dinner. He reports that Scripps Booth is at the Natick Quartermaster Depot and that Herb Reinhard has been in the hospital. We know that all of his many friends will join us in an expression of sincere sympathy to Lark Randall and his family on the death of Mrs. Randall.

Helier Rodríguez comes in for his share of appreciation for the outstanding work he did in arranging the all-M.I.T. week end in Havana last February and in his initial planning for our proposed reunion there next year. Helier sent Ray a carefully detailed statement of his preliminary investigation of the many items involved in organizing such a major undertaking.

For the benefit of so many in the Class who maintained the undergraduate newspaper, *The Tech*, during the critical World War I period, built it up to a position of high regard in both the Intercollegiate Newspaper Association and in the advertising field, pioneered its year-round publication, and founded from it the first college engineering magazine, we recognize the paper's 75th birthday. The 12-page Anniversary Issue reflects the amazing growth of Technology as seen in the pages of issues of *The Tech*. Congratulations from the many who served Volumes 37 to 40, including, if memory serves us right, Ray St. Laurent, Chick Kurth, Art Skilling, Bill Rose, Hazen Pratt, Fred Adams, Bob Dolle, Harty Flemming, Jim Ford, Bob Frost, Zam Giddens, Ernie Gordon, George Gokey, Phil Guckes, Ed Haigh, Dan Harvey, San Hill, Harry Junod, Norm Patton, Ralph Price, Dick Windisch, Lyall Stuart, and your Secretary. Saul Silverstein spoke on "Organization — Key to Better Products" at Industry Night in Stamford, Conn., last January. Later that month, he was presented with an award by the Manchester, Conn., Junior Chamber of Commerce as an "outstanding boss." Saul lives in Manchester, where one of the four plants of Rogers Corporation is located.

Dugald C. Jackson, Jr., phoned us from New York, where he attended the midwinter meeting of the American Institute of Electrical Engineers, and then



wrote the latest news of his family. In New York, he saw Phil Coffin, who presented a technical paper as previously noted here. Dug reports the arrival on January 23 of his seventh grandchild, Daniel Brian Jackson, son of Dan and Doris. Congratulations to the parents and grandparents of the new arrival. Says Dug: "If we can't give you news for your column in the Review, our young people will create it and come to our rescue." Dug and Betty went to Cambridge to be with Mrs. D. C. Jackson at the family home at 5 Mercer Circle, Cambridge 38, Mass., for her 90th birthday on February 8. We noted last month that greetings were sent to Mrs. Jackson on behalf of the Class. We are also asking all members of Courses VI and VI-A and any others who studied under the late Professor Jackson, to send Mrs. Jackson a note of good wishes and also to send a contribution to the Institute in support of the Dugald Caleb Jackson Professorship in Electrical Engineering. Checks should be made payable to W. A. Hokanson, Bursar, and sent direct to M.I.T., Cambridge 39, Mass., with an indication of the purpose for which intended.

Francis T. Whitworth died at Salt Lake City, Utah, on January 16, 1957, and it is with sincere sorrow that we extend deepest sympathy to his family. Born on February 9, 1900, at Nashua, N.H., Frank prepared for Technology at Somerville High School and entered M.I.T. in 1917. At the Institute, he was a member of the Aero Society, the Chemical Society, Treasurer of the *Technology Monthly*, Treasurer of *VooDoo*, and on the Finance Committee of the Institute Committee. He was a private in the Students' Army Training Corps in World War I. He was graduated with us in Course X and also received the master's degree in Course X-A. After a short period as a research engineer with U.S. Steel Corporation, he spent a year in newspaper advertising. Going to Salt Lake City in 1923, he became a metallurgist for Utah Copper Company, now the Utah Copper Division, Kennicott Copper Corporation. While at the Arthur plant in the late 20's, he developed and patented the copper flotation reagent, distributed by American Cyanamid Company, which is still used throughout the world. He spent several years with American Cyanamid and retired to devote his time to safety activities, for which he won prominence, and to his hobbies of hunting and fishing. He was a former member of the Salt Lake City Traffic Advisory Council, a Scottish Rite Mason, Blue Lodge member, and member of El Kalah Shrine Temple. He is survived by his wife, the former Bertha Goodwin; a son, Francis T. Whitworth, Jr., of San Francisco; a daughter, Mrs. Joyce Whitworth Perry of Lakehurst, N.J.; a sister, Mrs. Edward H. Hezlett of Boston; and three grandchildren.

We are indebted to Mr. Frederick C. Walker, Superintendent of Schools of Dover, N.H., for additional information on the passing of James Herbert Dodge on October 27, 1956, recorded in these columns last month. Herb was born in Pembroke, N.H., December 5, 1894, attended Concord High School and the University of New Hampshire and was

graduated from Dartmouth in 1917. He joined us in the junior year and obtained his bachelor's degree in civil engineering. He served in World War I and was a member of Dover Barracks 115, World War I veterans, and its adjutant quartermaster. He came to Dover High School in 1938 as instructor in mathematics and physics, having previously taught these subjects at the Stearns School, Mt. Vernon, N.H. He was named assistant principal in 1942 and principal in August, 1956. He is survived by his wife, Marie, and two sons, James, Jr., a chief in the Navy, and John, associated with a West Coast aircraft manufacturer. For the entire Class, we extend to them sincerest sympathy.

Reminder: The next gathering of the Class will be on campus in Cambridge on Alumni Day, June 10, 1957. Plan to be there. — CAROLE A. CLARKE, *Secretary*, Federal Telephone and Radio Company, 100 Kingsland Road, Clifton, N.J.

## 1922

As all who are following Alumni activities know, Ted Miller, Alumni Association President, is doing a wonderful job. All should read Ted's newsletter for club officers entitled "Why Johnny Can't Figure! An Open Letter to M.I.T. Clubs." The purpose of this communication was to enlist the support, advice, and assistance of officers of M.I.T. clubs throughout the United States on the problem of the critical shortage of science and mathematics teachers in the high schools. One of the suggestions proposed is that of part-time teaching by men who have left the engineering profession, such as retired engineers, scientists, and others.

Ray C. Burrus, Consulting Engineer at 910 17th Street, N.W., Washington, D.C., had an article in *Consulting Engineer* for December 1956 entitled "More Money for Private Enterprise Abroad," in which it is suggested that consulting engineers interested in overseas projects should know about the International Finance Corporation and its policy of making available funds for private enterprise in foreign countries. Norman J. Greene and Mrs. Greene have been off on a three-month trip which took them from Berwyn, Pa., to Los Angeles and San Francisco, thence by boat to Honolulu, Pago Pago, Samoa, Fiji Islands, New Zealand, Australia, and return. Fay Lincoln had an exhibition of color photography in the form of 38 prints, all 20 by 24 inches or larger, at the M.I.T. Club of New York during the last week in January.

Your Secretary's query about other classmates who might have made an eagle on a par three hole produced the astonishing information that George R. Hopkins has made "six of those things," but it took "30 years and thousands of shots." Richard S. Chatfield, who lives at White House Station, N.J., has been appointed manager of the Construction Division of the City Mortgage Department of Equitable Life Assurance Society. Part of Crawford H. Greenewalt's much discussed talk, "The Uncommon Man," has been used in prestige advertising by the management consultant firm of Worden and Risberg of Philadelphia. John F. Pierce,

who is a management consultant in Boston, spoke to the Merrimack Valley chapter of the National Association of Cost Accountants last January on the subject "A Penny Saved is a Penny Earned."

Frank Kurtz retired from the Great Atlantic and Pacific Tea Company last October. He had been associated with the company for many years and at the time of his retirement was chairman of the board of the American Coffee Corporation, a division of A & P. He began his business career with the A & P Tea Company in the Auditing Department in 1922 and in 1923 was appointed an auditor in the Coffee Department. From 1923 to 1928 he was first assistant manager and then general manager of the American Coffee Corporation, with offices in Manizales, Colombia. In 1929 he was named assistant to the president of American Coffee Corporation in New York, and in 1937 was appointed vice-president of the firm. In 1946 he was named president of the American Coffee Corporation, and in 1951 became chairman of the board as well as a director of A & P subsidiaries.

Harvey Williams has been elected president of Philco International Corporation after having served for three years as vice-president of Avco Manufacturing Corporation and general manager of its International Division. His election followed the sale by Avco Manufacturing to Philco Corporation of its Bendix Home Appliances Division, and also of its trademarks, patents, manufacturing licenses, and distribution arrangements relating to Crosley and Bendix home appliances outside of the United States and Canada.

Last call for Reunion reservations for the Sheldon House, Pine Orchard, Conn., June 7, 8 and 9. — C. YARDLEY CHITTICK, *Secretary*, 41 Tremont Street, Boston, Mass. WHITWORTH FERGUSON, *Assistant Secretary*, 333 Ellicott Street, Buffalo, N.Y.

## 1923

Penn Howland, XV, reports on the Midwinter Alumni Meeting, saying, among other things, "Julius Stratton, VI, did a beautiful job briefing the Alumni on the state of the Institute and all its activities. He functioned in the absence of Dr. Killian." Also, Julius was in Oklahoma for the celebration of "M.I.T. Day in Oklahoma," as proclaimed by the Governor of the "Sooner State." Also present at the Midwinter Meeting were George Johnson, II, Dave Skinner, XIV, Ronald Brown, XV, Charlie Keevil, X, Kitty Kattwinkle, XV, Harry Chatto, IX, and Penn Howland. Incidentally, George Johnson is boasting he is now a grandfather. Miles Pennybacker, VI, boasts of four grandchildren. Anyone have 10 or more? Please send in your names.

Dean John E. Burchard, IV, gave a thought-provoking talk before the M.I.T. Club of Westchester at the Scarsdale Golf Club on January 17. Forty Alumni and half as many wives braved zero temperatures and icy roads to attend an informal dinner. As usual, John covered himself and the Institute with glory. Being only a country boy from White Plains, your scribe had difficulty in keeping up with him at times, but the gist of his talk was,



"Now that we have developed science with all its impact, how are we going to manage it?" He advocated exchange of knowledge and understanding between liberal art colleges and engineering institutions. Where John got the time to study all the subjects he talked about, is something at which to marvel. He demonstrated that the Institute has picked a wise leader for its course in humanities. William E. Searles, IV, and his lovely wife attended the affair from Stamford, Conn. Bill is district sales manager for Eastman Chemical Products, Inc., a subsidiary of Eastman-Kodak Company, and is located at the New York City Office.

Had lunch with Francis (Frank) Kuriss, II, and his associates in the New York Telephone Company a few weeks ago. As reported previously in these columns, Frank is in charge of a consolidated engineering staff with which the New York Telephone Company is experimenting. He is presently located in Scarsdale, but the Telephone Company is planning a new building for him about one-half mile away from here in White Plains. Frank gave me a note he had received from Herb Hayden, II, who is the manager of the Leominster, Mass., Du Pont plant. Herb and his wife have raised three children, put them through college, and have them safely married. Two have families of their own and have presented Herb and Mrs. Hayden with a total of seven grandchildren. Judging by the picture of the house on Herb's letterhead, he is expecting many more grandchildren before writing finis to the chapter of vital statistics. He still plays hockey and tennis — he is also Red Cross chairman at Leominster.

We regret to report the death of William A. Gallup, V, at Boston, January 14. He was president of the Investment Counsel firm of William Albert Gallup, Inc. A native of North Adams, he was treasurer of the Bishop and Trustees of the Protestant Episcopal Church and the Diocesan Investment Trust. During World War II he was chief of the Industrial Manufacturing Section of the Office of Price Administration of the New England region. He retired from business in 1952 because of ill health. He was a member of the Union Club and Brae Burn Country Club, and a life member of the Greater Boston Chamber of Commerce. He leaves his wife, the former Lucy Gordon Pollard of North Adams; also a son and three daughters — all married. The Alumni Register also reports the passing of Edward Fox, X, in 1954. No other information is presently available.

None other than Colonel Frederick Lindtner, VI, is in charge of the 33rd Air Base Group at Otis Air Force Base on Cape Cod. His job is to insure that the Base is in tip-top physical condition 24 hours a day, and to feed, house, entertain, educate, and care for the thousands of air men and their families stationed there. He likens his work to the complete maintenance of a city of 25,000 people. Colonel Lindtner is a native of Norway. He came to America in 1919 to study at M.I.T. and remained to become a citizen of the United States. In 1941 he entered the Air Force and served with the 8th Air Force in England and

France during World War II and later with the Allied Air Force in Norway. After the war, he was assistant to the Secretary of the Air Force in Washington. During the Korean conflict he was in Japan and other Far East stations.

Lester Bridaham, X, broke into the news at Chicago by naming his favorite painting "A View of New Orleans Taken From the Plantation of Marigny — November 1803." Lester has just assumed the position of Museum Director at the Chicago Historical Society, and he considers the painting one of the Society's most significant possessions. Previously, he was director of the Louisiana State Museum at New Orleans.

A. Griffin Ashcroft, II, has joined the staff of Arthur D. Little, Inc., and is assigned to the New York City office. He previously spent 20 years as vice-president and director of Research and Development of Alexander Smith, Inc., the well-known carpet concern. He is former president and member of the Board of Trustees of the Textile Research Institute. He has received several citations for his technological contributions from the American Standard Association and the American Society for Testing Materials. — HOWARD F. RUSSELL, *Secretary*, Improved Risk Mutuals, 15 N. Broadway, White Plains, N.Y. WENTWORTH T. HOWLAND, *Assistant Secretary*, 1771 Washington Street, Auburndale 66, Mass.

## 1924

A rare honor has been awarded Mrs. Jimmy Doolittle. In January she received the William J. McGough Memorial Award of New York's American Legion Air Service Post 501. The second woman to be so honored (the first, Jacqueline Cochrane), given for "her contributions to aviation through the years." The head table was a Who's Who of aviation. Besides her husband, a couple of other distinguished M.I.T. fliers; Rear Admiral Luis de Florez and General George Kenney, both '11.

Carleton Shugg, Vice-president of General Dynamics Corporation and general manager of its Electric Boat Division, has now gone into banking with the involved title of member of the New London Advisory Board of the Hartford National Bank and Trust Company. Interesting stamp on Hank Simonds' latest card, this one from St. Nazaire. It carries a portrait of Benjamin Franklin. Rather a peculiar version, with a cupid's bow mouth and large, cow-like eyes, but the Republique Française undoubtedly meant well.

Your secretary has just returned from a bit of a swing around the country. In Tulsa, at the Regional Conference on February 2, ran into Bill MacCallum who had again planned things just right. He wanted to see if the Tulsa show was up to the one he ran last year in Los Angeles. Also there, Ed Hanley. Ed is in on the planning of one in Pittsburgh this December, so he was on a spying expedition. Mrs. Hanley was with him, and at a party at the home of Bill Sherry '21, we all had the pleasure of meeting Lon Gregory's widow.

On Sunday the 3d, Bill MacCallum and your secretary joined B. Edwin Groene-

wold '25 at lunch at the Southern Hills Country Club. Many of you will remember Bed. He is now president of the Exploration and Drilling Company, with crews in the field from the Canadian to the Mexican border. Lunch was preceded by a warm up in Bed's private taproom where we admired his extensive and intriguing collection of steins. That evening was spent in Dallas with Ingram Lee and his family. The car motor was kept running all evening since Mrs. Ike, Jr., expected her first child almost momentarily. Ike, a naval architect who went into textiles and then insurance, is looking forward to retirement very shortly, and has developed some very worth-while interests. He is now enrolled as a graduate student working for a master's in French literature. His library, very highly selected, includes some volumes a bit the worse for wear with the passage of time. So Ike has taken up bookbinding, and has produced some truly magnificent work. "Of course, I'm just a beginner," he protests, but to a non-expert it looks as though he has already arrived.

In Beaumont your secretary had lunch with Cliff Bailey — Harry C. Bailey, that is. Cliff was in charge of the design and construction of Du Pont's big Beaumont plant, and has been in charge since it went into operation two or three years ago. Cliff, too, has retirement in mind, though it's apparently a pretty indefinite thing. "You know, I'm essentially a very lazy guy, but I've never had a chance to indulge it. I want to follow my natural instincts."

With Mrs. Kane, found pacing the airport terminal in Kansas City long after your secretary's plane was due (12 hours late), the next stop was the small town of Bosworth, some distance outside Kansas City and completely surrounded by Missouri mud. However, our son's wedding went off without a hitch. David was either used to mud by then or he was too blissfully numb to worry. One thing was readily apparent; the complete uselessness of a father of the groom. However, there are two daughters coming along. They say that's a bit different, that fathers are most essential. There is a piggy-bank filling up for the purpose.

The Midwinter Meeting in late January brought out very few of the Class. Carl Muckenhoupt was there with his son, a carbon copy except for a difference in hair line. Your Class officers were represented by Class Agent Frank Shaw, Russ Ambach of the Executive Committee, and your secretary. Professor Avery Ashdown and Dean Harold Hazen carried the Institute colors, while Gene Quirin represented Babson Institute. Gene's fellow-townsmen in Wellesley, Wil Gilman, completed the line-up.

As these notes were being written who should come in the door but Vin Lysaght with his sister. Vin, who is sales manager for American Chain and Cable Company, was visiting Fall River for the weekend, came up to pave the way for his oldest son, Vin, Jr., to enter M.I.T. His son, by the way, is a junior at Iona in New Rochelle, the college which claims Jack Hennessy as its newest trustee. — HENRY B. KANE, *Secretary*, Room 1-272, M.I.T., Cambridge 39, Mass.

A few months ago, John M. Campbell was mentioned in this column as having written an article on his activities with General Motors; and now the information reaches us that he has been promoted from technical director of research to the position of scientific director of research. Ralph Gow, who is known to you as the executive vice-president of the Norton Company of Worcester, Mass., has recently been elected to a three-year term as the director of the New England Council. Ralph has many other responsibilities in the Worcester area, where he is director of the Mechanics' National Bank of Worcester, the Worcester Y.M.C.A., and the Worcester Chamber of Commerce. He is also a trustee of the Worcester County Institution for Savings, and the Worcester Foundation for Experimental Biology. Also in the news is Flavel D. Ray who has long been associated with advertising and marketing, and has recently been appointed to the newly-created post of creative director for industrial marketing at Shattuck, Clifford, and McMillan, Inc.

You may well be interested in one of Ed Kussmaul's extracurricular activities which has taken a great deal of his time during the past couple of months. He has been planning a panel discussion on the subject, "How can we guide elementary and high school students towards science and mathematics leading to careers in engineering-research?" The program is being held at M.I.T.'s Kresge Auditorium on Thursday, February 21, 1957, under the auspices of the Massachusetts Society of Professional Engineers. Ed has succeeded in obtaining Dr. John J. Desmond, Jr., Commissioner of Education of the Commonwealth of Massachusetts, as the moderator. M.I.T. will be well represented on the panel by Dr. H. Guyford Stever, Associate Dean of M.I.T., and Dr. Jerrold R. Zacharias, of the M.I.T. Department of Physics. Dr. Francis Bitter, Associate Dean of M.I.T.'s School of Science, has been the co-ordinator of the panel. In addition to this group, Ed has obtained two professors from Boston University, an industrialist, and the Superintendent of Schools from his own town of Westwood to round out the panel. Ed is certainly to be congratulated on his undertaking in covering a subject which is of the utmost interest and importance at the present time. — F. L. FOSTER, *Secretary*, Room 5-105, M.I.T., Cambridge, Mass.

## 1926

The return postcards sent out in December are still trickling in — many with letters. In addition, the clipping service, or perhaps I should say the Class, has come to life, too. Consequently, your secretary for once has no lack of material, but if you haven't sent your card back or have lost it, we still want to hear from you. Also, please bear with us if you wrote some time ago and we haven't acknowledged your card or letter. Some letters are long, some cards short, and we want to make the best use of the space allotted to our Class. All of this material is being

kept and assembled at Pigeon Cove, so there is always the hazard of a real bad week end that may prevent the trek, in which case we may have to go back to improvising. I must not take more valuable space when we really have news.

You recall that I mentioned receiving one reply from a classmate's wife, so let us start with a family report on the Suydams: "Jim became general superintendent for Blount Brothers Construction Company of Montgomery on June 1, 1956, concentrating mostly on jobs in Maryland, Ohio, Kentucky, Tennessee, and Alabama. The company is an exciting combination of aggressive, imaginative young men and seasoned older men of broad experience, who, through terrific teamwork, achieve remarkable success in unusual and difficult construction projects. Jim is thoroughly enjoying his work and his associates and is putting on weight despite a fairly rugged travel schedule.

"M. Jane reluctantly gave up her job with Family Service and the University of Cincinnati, but is finding life in the South very interesting. She's acquiring a new knowledge of geography as she keeps track of her husband's travels. She finds Southern courtesy and hospitality most heart-warming and can report that Southern women seem to be as busy as Northern ones in both paid and volunteer jobs. Sonya is in her third year at the College of Fine Arts of Syracuse University and expects to get her degree in September, 1957. At this distance her parents are not sure whether Cincinnati, Syracuse, or Cornell holds her most serious heart interest. Sky, 13 years old and tallest member of the family, likes the idea of living in another section of the country because he was the only member of the family who had not lived outside Cincinnati. He finds Southern girls both pretty and flattering, is learning to speak with a Southern accent. His proudest achievement is to have passed qualifications for 'crew' in sailing class in Michigan this past summer, and has set his sights on service in the Navy like his Uncle Wendell Suydam who became Captain last year." Mrs. Suydam reports that Jim's pride and joy (outside the family) is his 1932 Duesenberg, and asks if there are other Duesenberg fans in the Class. The Suydams are living at 515 Briarcliff Road in Montgomery, Ala.

Now let's go to the cards for a moment. Here is a brief note from "Hoppie": "To bring you up to date. Same desk, same address, but a bigger variety of sponsors." Stapled to the note is a business card: Giles E. Hopkins, Research Director, Man-Made Fiber Producers Association, 350 Fifth Avenue, New York 1, N.Y. Now here is one that we get every year from our one classmate who seems to have found out how to live, and while I would never want to admit being jealous, I guess it's O.K. to be a little envious: "Dear George: Christmas morning — I'm writing this on the porch of our cottage, six miles from town on the beach. Temperature is 76 degrees. The ocean is 73 degrees. We have two bunches of bananas hanging in our yard. My wife has the same Mexican maid — she is a jewel; cleans, washes, irons, and is a good cook.

Pay — 40 cents per day (five pesos). Rum is \$2.50 per gallon. I bought 50 oranges last week for five pesos. We go swimming every day and fishing three times each week. Harpooned a big manta ray last week. He towed my boat backwards against my 15 horsepower outboard motor for three and one-half hours. We finally got him on the beach, and he measured five meters across. This place is 400 miles north of Acapulco on the west coast of Mexico, 19 degrees above equator. Ben Howe." I can't even annoy Ben by reminding him that New England is a summer resort because as soon as it gets a little too warm in Mexico, Ben scrams back to his engineering business in Denver.

Here's a short one from Linwood B. Hilton who says, "Please note change of address." Since the old one was Bell Laboratories at Murray Hill, N.J., and the new one is 4 Old South Lane, Andover, Mass., we presume he is located at the large new Western Electric project in North Andover. If so, this will give us an excuse to visit the place. John Nicholas acknowledged our card with a note, a number of his bulletins on frozen food research, and a promise of a letter. The letter arrived this week, and we are saving it for next month's notes. John is professor of agricultural engineering at Penn State; probably the only agricultural engineer we have in the Class, although we do have a professional farmer, Charlie Miley of Sidney, Ohio.

We regret that with all this news we have three deaths to report this month, the first being Frank Gilmore of Hartford, Conn., where he was associated with Westinghouse. Frank's original home was in Brockton, Mass., and he had been with Westinghouse since graduation. Harold Willoughby of Lowell, Mass., died in early December. He had been consulting for some years in the fields of physics and photography. The third member whose death we regret to report is that of George B. Lamb, which came to us through the Review office with no details other than the date of September 20, 1956, and his last address, c/o Gulf Oil Company at Houston, Texas. We appear to have used up our allotted space for the month, and Heidi is making it known that it is time for me to take her walking. We still have lots to report from letters and cards that you have sent us, but don't let that slow you down if you haven't written. It's nice to have a backlog when starting these notes each month. See you in May!

P.S. I had written the word *finis* for the benefit of the young lady who copies these notes when I heard a four-engine plane hovering overhead, something unusual in these parts. Then a two-engine seaplane appeared on the scene, and the cause of it all seemed to be a tanker out in the bay. Sensing something wrong, we dropped over to visit a friend who has a short-wave radio and whose angle of view was a little better than ours. The radio revealed that the tanker had hit a submerged rock and was in distress. The wind was blowing a healthy 28 miles per hour, and the sea was rough. Hence, the skipper of the heavily loaded tanker was cutting inside. The charts are well marked



and it was broad daylight so the accident was unforgivable. The radio said that the cook who was lame had been taken off first. Then the five crew members were taken into the Coast Guard surf boat and stood by for a while. When it was announced that they were coming ashore, we drove down to the town wharf and saw five grease-soaked men, each with his little bag of belongings, come ashore. One was carrying the largest television set I had ever seen, obviously his pride and joy. The skipper insisted on standing by his ship, but it was time for us to leave for Winchester. By the time we started home it was on the news program and we learned that at dusk the skipper was also removed. Shortly thereafter the tanker just swamped and sank — \$250,000 worth of ship and \$30,000 worth of cargo — and it turned out that there was an 80-foot rip in the 169 foot boat. Now we can say finis. — GEORGE WARREN SMITH, *Secretary*, E. I. du Pont de Nemours and Company, Elastomers Department, 140 Federal Street, Boston 10, Mass.

## 1927

A recent article in the *Boston Traveler* gives us the following information: "Every time an atom bomb goes off, men from a Boston firm are standing near — but not too near. Edgerton, Germe-shausen, and Grier, Inc., now has 150 persons stationed in Las Vegas, Nev." This company designs, builds, and operates the control panels that detonate the A-bomb. They also have men in the field, ready to record and measure the effects of the nuclear explosion. One of the three founders of this organization is Dr. Harold E. Edgerton, who is known for his high-speed photographs that stop a bullet in flight, freeze a hummingbird's wings, or show a drop of milk breaking up as it hits the floor. At present the company is putting the finishing touches on a giant, six-room aluminum trailer that will be filled with thousands of pounds of photographic equipment. It will be taken to the atomic testing grounds.

It is with deep regret that we announce the death of Rear Admiral Augustus J. Wellings, one of the only three brothers ever to hold the rank of admiral simultaneously in the United States Navy, in the Bethesda, Md., Naval Hospital where he had lived since his retirement in 1954. — J. S. HARRIS, *Secretary*, Shell Oil Company, 50 West 50th Street, New York, N.Y.

## 1928

Carl Feldman, Bill Carlisle, Jim Donovan, Dud Collier, and Walt Smith showed up for the Midwinter Meeting of the Alumni Association at the Institute on January 30. Ralph Johe had to do a rush job on a report and couldn't make the meeting. Almost any gathering of '28ers is an enjoyable occasion, and this was no exception.

We had not seen Carl Feldman since graduation, and it was a real pleasure to review with him events of the intervening years. Carl's first job was with Boston Edison where he remained until 1952.

Following this he went into private consulting as an electrical engineer. Now he is general engineer with Allis-Chalmers' Boston Division in the manufacture of circuit breakers. The Feldmans live in Sharon where Carl is active in civic affairs. He has been president of Parent-Teachers' Association, and for two years chairman of the Red Cross drive. At present he is a member of the Massachusetts Engineers' Day Committee. Carl has an interest in growing fruit. He is particularly proud of an apple tree on which five varieties are produced, and he makes cherry wine with fruit from his own trees. Son Peter, now 17, will graduate from Sharon High School this year. For the present, at least, Peter's interests are in music and drama. — GEORGE I. CHATFIELD, *Secretary*, 49 Eton Road, Larchmont, N.Y. WALTER J. SMITH, *Assistant Secretary*, 15 Acorn Park, Cambridge, Mass.

## 1930

From the *Hartford Courant* comes word about our classmate, Elroy Webber, who is architect for the new Stich contemporary home in West Hartford. He is a long-time advocate and practitioner of the contemporary mode in architecture. Following his study at M.I.T., Harvard, and in Paris with the famed French architect, Le Corbusier, he has built an enviable reputation as a master of contemporary home design. Custom designed homes from his drawing board are to be found in several parts of Connecticut, Westchester County in New York, New Jersey, and Massachusetts, and many of these homes have been cited in national home and architectural magazines. In addition to his contemporary homes, he has designed such diverse structures as hospitals, clinics, schools, office buildings, and a department store all in a distinctly contemporary vein.

From the Technical Publicity Department of Westinghouse Electric Corporation of Pittsburgh, Pa., we received word that Ralph H. Swingle was recently presented with the company's highest award, the Westinghouse Order of Merit for Distinguished Service, at the East Pittsburgh plant. Accompanying the award was a scroll in which Mr. Swingle was cited: "For his outstanding accomplishments in strengthening the patent leadership of Westinghouse in the field of circuit breakers; for his exceptional knowledge and understanding of patent law; for his knowledge of competitive apparatus; and for his tangible contributions to the program of the Westinghouse Company." Besides his degree in electrical engineering from M.I.T., 1930, he holds a degree from Duquesne University. He joined Westinghouse at East Pittsburgh in 1930 and has spent his entire career at this plant. He is presently section manager in the patent department where he is responsible for patent activities of the switchgear and standard control divisions.

From Esso Research and Engineering Company we have received word that our classmate, P. H. Holt, 2d, who has been with that company since 1937, was appointed manager of their newly estab-

lished Process Licensing Staff. This unit is responsible for licensing petroleum and petrochemical processes and contacts with customers and contractors. Congratulations, Phil, and good luck. The M.I.T. Alumni Office sent us a news clipping about Dick Fosser. On April 16, 1956, he was appointed assistant to the Director, Quality Control, of the Campbell Soup Company. Dick joined the company on May 28, 1934, as a chemist. His position prior to his recent appointment was technologist, Camden Plant.

Less Steffens has written us from New York City. He says this is his first report in 26 years. He has been working for Socony Mobil since 1936 in laboratories in Brooklyn and Paulsboro, N.J., and in New York in the Economics Department since 1954. He commutes from Darien. At the present time he is working at engineering economics and operations research. Less says he was married in 1938 and has three assorted daughters. His hobbies, more or less in chronological order, are: Tennis, sailing, daughters, bridge, chess, gardening, singing, scout camp construction, daughters. He is an educational councilor and recommends it to all Alumni. Sol Uman has sent us some news about himself from Freeport, N.Y. He is president of the Uman Construction Corporation in Freeport, Long Island. His company does commercial and industrial construction. He says this is a fairly large organization which has constructed a large percentage of the buildings in Nassau and Suffolk Counties, among them the Krovetz Department Stores. He is president of the Nassau County Chapter of the New York State Society of Professional Engineers. His son, Henry, is a senior at M.I.T., and Sol looks forward to his coming into the business. His youngest son, Stephen, is president of the junior class at Freeport High School.

Jack Bennet dropped us a line from Akron, Ohio. He likes the idea of the inquiry cards we are sending to our classmates and thinks they should produce a bit of news. Two of Jack's three-week vacation last summer were spent doing odd jobs around the house in connection with a substantial addition which was made to the rear of the building. He says he might as well have bought a new one costwise. His third week was spent on a trip to Vermont, Connecticut, and New York to visit relatives. Jack had a weekend visit from Bill and Luella Jackson in October, and during this time Ted and Margaret Riehl dropped in for a visit. Must have been like a small reunion. Enoch Green has written us from Passaic, N.J., that he is still with the Air Force Procurement, endeavoring to see that the Air Force gets full value per dollar spent from contractors. He sends best wishes to all. Dick Whitehead dropped us a note from Santa Barbara, Calif., bringing us up to date on his doings. He says that since 1945, after four years active duty in the Army, he has been director of planning for the County of Santa Barbara, Court House, Santa Barbara, Calif. As a member of the State Water Pollution Control Board he is still using the knowledge gained in Course XI.

Bob Foster wrote from Concord, N.H., on December 15, just after a 12-inch fall



of snow. He says he is now sole owner of Foster Builders, Inc., operating in the immediate vicinity of Concord, handling building construction exclusively. Says he's getting old — his folks just celebrated their Golden Wedding Anniversary on the 11th of December. He has been president of the Associated General Contractors of New Hampshire and Vermont since we last had any news from him. He sees Reg Bisson occasionally, as he is operating in the same line of work in Laconia, 30 miles away. Reg's firm is a member of the Associated General Contractors mentioned above of which Bob is president. He also sees Hal Spaans of Harrisburg, Pa., once or twice a year on either his or Hal's vacations. Another note came from New Hampshire, this one from Saul Sigel in Manchester. He says he is completing 23 years with M K M Knitting Mills, Inc., of that city as technical director. He has a daughter, Roberta, who is 17 years old, another daughter, Marjorie, who is 11, and a son, George, who is 15. Saul says he weighs a neat 185 pounds and has lost most of his hair. He recently heard from Sol Uman who he says is a very successful contractor in Long Island.

The following changes in address have been called to my attention: Richard N. Chinblom, 27 Bluff Avenue, Rowayton, Conn.; Wilfred P. Eaton, 7 Carolina Street, Cranford, N.J.; Mrs. Frances Frazier, Box 309, Route 12, San Antonio, Texas; Langley W. Isom, 5 Forest Hill Road, Darien, Conn.; Warren H. Martell, Apt. 1B, 423 Brickell Avenue, Miami 32, Fla.; Dr. E. Lionel Pavlo, 7 East 47th Street, New York 17, N.Y. (this is a change in name only from Emmanuel Leon Pavlo to E. Lionel Pavlo); and Dr. Howard A. Robinson, Adelphi College, Physics Department, Garden City, N.Y. — **GEORGE P. WADSWORTH**, Secretary, Room 2-287, Department of Mathematics, M.I.T., Cambridge 39, Mass. **LOUISE HALL**, Assistant Secretary, Box 6636, College Station, Durham, N.C. **RALPH W. PETERS**, Assistant Secretary, 249 Hollywood Avenue, Rochester 18, N.Y.

## 1931

"Whit" Burtner, whom you'll remember as a Course VI man, quit his job in the late '30's to study medicine. After his stint with the Army, he decided to start practice in Miami. A recent letter from his wife, Nita, says they still like it — so much so that they've acquired over an acre of Florida real estate and are raising dogs and orchids. "Wallie" Tibbets has been named leader of the Bakelite Company's product and development laboratories in Bound Brook, N.J. Wallie has been in the packaging field all of his working life. Another packaging man, John McBrayne, heads Union Bag and Paper's Industrial Engineering Department. John has also been active in Tappi affairs (Technical Association of the Pulp and Paper Industry).

Gordon Brown, Chairman of the Department of Electrical Engineering at Tech, broke into the news again when he discussed engineering education before the Michigan Section of the American Institute of Electrical Engineers. His speech dealt with the necessity for introducing

greater opportunity for creative work in engineering education. Just heard that Harold Wilson, Chief Mechanical Engineer for General Radio, was running for selectman at Bolton, Mass. From all reports, he'll be elected by a landslide.

An article in the *Hartford Times* tells that Leonard Terwilliger received a gold watch for 25 years of service with United Aircraft. Leonard's a boating enthusiast and holds the rank of Advanced Pilot in the U.S. Power Squadron. According to an announcement just received, Ed Hubbard, another Course XV'er, has just become a voting stockholder in Coffin and Burr. Saw Ed quite recently in Boston and enjoyed a bit of reminiscing about our undergraduate days.

New addresses have been received for: John H. Arnold, 10 Pembroke Road, Summit, N.J.; Dr. O. Whitmore Burtner, 8500 Old Cutler Road, South Miami 43, Fla.; Edward F. Coy, General Mills, Inc., Mechanical Division, 1620 Central Avenue, Minneapolis 13, Minn.; Raymond Donway, 2754 Powhatan Avenue, San Diego 17, Calif.; John R. Gardner, 62 Goode Street, Ballston Lake, N.Y.; Bronislaus J. Gedrewig, 160 Main Street, Lynnfield Center, Mass.; Mrs. Mary M. Handrahan, Copernico 45, Barcelona, Spain; Jack R. Kalman, 239 Crestmont, Norman, Okla.; Dr. William C. Kay, P.O. Box 3804, Greenville, Del.; Thomas Knox, 9608 Glencrest Lane, Kensington, Md.; Richard R. Snow, American Steel and Wire Division, 1410 Rockefeller Building, Cleveland 13, Ohio; William A. Stellrecht, Walter Flex — Strasse 27, Stuttgart, Sillenbuck, Germany. — **EDWIN S. WARDEN**, Secretary, 9 Murvon Court, Westport, Conn.

## 1932

This is probably the last chance your secretary will have to use the Class Notes as a means of giving a final word of encouragement for attendance at the Reunion for any classmate who may be weighing his decision to come. From all I can see it will be a lot of fun and most interesting. The Reunion Committee has really done a bang-up job, so to those of you who may be just a little doubtful, put in that extra bit of effort and be there!

The six-man Massachusetts Commission on Atomic Energy, appointed just before Christmas by Governor Herter, contains two members from the Class of '32. Completely logical is the choice of Carroll Wilson, who has probably forgotten more about atomic energy than most of us will ever know. Carroll has the six-year term. Right behind him for the five-year term is Manson Benedict, Professor of Chemical Engineering at M.I.T., who took his master's degree our year. Manson, incidentally, is also a member of the Atomic Energy Commission's Advisory Committee on Reactor Safeguards that has the important task of advising the A.E.C. on proposed new reactor installations. Another kudos for Manson is his election to the board of directors of the American Institute of Chemical Engineers.

John Calkin, whom I reported as assistant to the President of Foster D. Snell, Inc., has now left this firm to become president of a new firm of industrial con-

sultants known as Calkin and Bagley, Inc., with offices located at 50 E. 41st Street, N.Y. John's firm will specialize in marketing and economic research, product and market development, process development and design, business and plant surveys, and analysis and testing. Industries to be served include, among others, chemical, gas and petroleum, pulp and paper, packaging, textiles, etc. Quite an ambitious undertaking for John, but one that we are sure will be most successful. Al Dietz is in the news again in a most interesting way. At the end of January he opened a four-week session of the Greater Newburyport Council of Churches University of Life program with a lecture on "The Church and Science." Al has been quite active in his own church, the First Congregational of Winchester, being both the deacon and director of the church school.

John Leslie has gotten another boost in the Corps of Engineers. He has been made chief of the Engineering Division, New England Division, U.S. Army Corps of Engineers. He had been chief of the Design Branch of the Boston District, and later chief of the Military Branch, and assistant chief of the Engineering Division of the New England Division. So now John's the boss. He is also presently first vice-president of the Boston Post, Society of American Military Engineers. Speaking of the Corps of Engineers, Colonel Clarence Renshaw is now back from Okinawa and is attached to the North Atlantic Division of Engineers. He is living at 110 Warwick Avenue, Douglaston, N.Y.

One of the most interesting graduate students attached to our Class is Ira J. Bach, who studied architecture and city planning at Tech. Ira has just been made the first commissioner of city planning for the city of Chicago. This is shaped up to be an important job. The difference between this new department and other planning agencies is that it will be a line department of the city government, integrated with the other executive branches and responsible to the mayor. One of the dreams Ira expects to spur is the building of a great port in the city. Through the Port Authority of Chicago, wharves and shipping facilities will be constructed with aid from the federal and state governments. His first experience in planning and housing came in 1942 when he directed the construction of war-time housing in Utah, Colorado, and Wyoming. In 1943 he was appointed director of planning for the Chicago Housing Authority and later moved up to head the Cook County Housing Authority. From there he stepped into the directorship of the Chicago Land Clearance Commission, which he will relinquish to take up his newest (and biggest) challenge.

Maurice Triouleyre has hit the news again through an article published in the January issue of the *National Association of Cost Accountants Bulletin*, "Better Control of Supplies — with Economy." This dealt with particulars and results of a program of supplies control. John Strickler, who has been assistant vice-president of engineering at Bell Aircraft, has now been made manager of the Research Division. One of Bell's first employees in 1935, John has held a number

of key assignments in engineering, and has been associated with most Bell products dating back to the company's first airplane, the Airacuda. Staffed with engineers and scientists, and equipped with laboratories, wind tunnels, electronic computation equipment, and flight test facilities, the Research Division will engage in advanced aeronautical research. In addition, this division will conduct weapon systems analyses and perform advanced design work through the initial stages of development. — ROBERT B. SEMPLE, *Secretary*, Box 111, Wyandotte, Mich. *Assistant Secretaries*: WILLIAM H. BARKER, 45 Meredith Drive, Cranston, R.I. ROLF ELIASSEN, Room 1-138, M.I.T., Cambridge 39, Mass.

## 1933

We had the pleasure of a long chat with Duke Selig in Houston, Texas, recently. Duke is head of the Buffalo Electric Company, distributor of electrical equipment. He retains his youthful appearance, including a full head of hair. Beau Whitton reports from Jackson, Miss., that business is good but not very profitable. Other information we have received indicates that Beau has made quite a name for himself in the contracting business in the South.

Congratulations to William E. Rohman who has just been named manager, Operations Accounting Services, at Hamilton Standard Division of United Aircraft. We are happy to note also that Mrs. Margaret B. Geddes, associated with the firm of Harkness and Geddes in Providence, has been named a staff member of the Providence Redevelopment Agency. John Sterner, on whom we reported a couple of months ago, was recently written up in the Los Angeles papers for his key position in the Ramo-Wooldridge Corporation. John is guided missile staff director. The brevity of these notes indicates clearly that your Secretaries would greatly welcome word from all members of the Class. — GEORGE HENNING, *Secretary*, 330 Belmont Avenue, Brooklyn 7, N.Y. R. M. KIMBALL, *Assistant Secretary*, Room 3-234, M.I.T., Cambridge, Mass.

## 1934

Wally Wise has joined Sargent and Company in New Haven as general manager of their Hand Tool Division. This is an autonomous division with its own product design, process engineering, production and sales staff. Wally had previously been manager of marketing for the Toledo Scale Company. Ellsworth Wilson, who is at Electric Boat in Groton, Conn., was recently promoted to assistant supervisor of the auxiliary power section of the Design Division's Mechanical Branch.

On the last day of January, Class President Hank Backenstoss met for dinner at the Institute with the Compton scholarship group. Those attending were Carl Wilson, Jink Callan, John Hrones, Bob Becker, Roger Coffey, Roger Williams, Sam Blake, Dave Mooney, Les Doten, John Hitchcock, Hal Reynolds, and your secretary. Excellent progress has been made toward making good on

the original goal. You will be hearing more about this directly.

Ed Sylvester is reported to have gone to Johannesburg, South Africa, to build car wheels. We presume this to be an offshoot of Griffin Wheel Company of Chicago of which Ed was president. Hank Backenstoss says Joe Seligman was in Boston seeing John Hancock Insurance Company in behalf of a client during February. Joe is an associate of a San Francisco law firm, and specializes in setting up pension funds, profit sharing plans, and the like. Joe and wife Peggy have three boys, thirteen, nine, and six. This intelligence from Hank came just as he and Mrs. Backenstoss were to fly to Paris for a three-week holiday. He'll tell us about it on his return. — WALTER MCKAY, *Secretary*, Room 33-211, M.I.T., Cambridge, Mass.

## 1935

Some months ago I told you that our President, John H. Colby, was appointed general sales manager by Johnson Service Company and moved to Milwaukee. In December, Jack was elected vice-president of the concern in charge of sales. I have received a number of pictures which I wish I could make available to all. One of the recent pictures is of a group of M.I.T. engineers with Hamilton Standard Division of United Aircraft Corporation, and includes Ermano Garaventa, who is assistant chief engineer and now lives at 109 Lakewood Circle, Manchester, Conn. A picture of George R. Bull, Jr., shows him to look the same as he did in school — I wonder how recent the picture was. George is now public relations assistant with the Bell Telephone Company of Pennsylvania. Ned Collins' new address is 515 Broadway, Gary, Ind. G. W. Tricheo was recently named president of Amplex Division of Chrysler Corporation. He has been an executive vice-president and general manager since 1954. W. I. Thompson writes that he is with General Atomic Division of General Dynamics as chief process engineer. They are setting up a new company in the nuclear power field. He now lives at 6741 Avenida Manana, La Jolla, Calif. Vincent K. Ulrich of Wellesley has been named head of applications engineering for Raytheon Manufacturing Company, Receiving Tube Division. He recently resigned his position as general sales manager of David Bogen Company, Inc. He has held many positions in professional radio and engineering societies and served on many industry-wide committees.

It is with deep regret that we note the death of Charles E. Scott, 953 Worcester Road, Framingham Center, Mass., on October 17, 1956. It is also with deep regret that we note the death of Cy Williams'32. The following clipping about Cy was in the Richmond, Va., paper, and I felt that it was worth recording here, as he was so deeply loved in his new community. "There died on Christmas Eve, at 45, a man whom Richmond could ill afford to lose. His name was Cy Williams. He was a big man — 6 feet, plus, and 200 pounds — and his particular virtue for this city was that he thought big. There was no littleness in him. A builder

of houses, he came to Richmond only five years ago, and swiftly recognized, as so many Richmonders never have recognized, that the city's most urgent need in the field of housing is for good new Negro housing. He set out to provide it, and erected in the East End a subdivision of nearly 100 first-class Negro homes: A million dollars in new property values on what had been a city dump. When a heart attack hit him Monday morning, he was busily engaged in plans for two more projects. He was exultantly determined to do a better job with private capital than government can do with Federal subsidy. And he would have done it, too, for he was a doer. His death is a peculiar loss. Richmond, in many respects, remains a right provincial city. We are tied by some umbilical cord of tradition to a small-town past; it hampers our planning for a metropolitan area of 350,000 persons. Thus the active, intelligent newcomer, capable of bringing a fresh point of view, can provide the new blood that emboldens the old. This would have been Cy Williams' contribution, and we are poorer for his death today."

Hank King forwarded to me a letter from John S. Holley, whose address is c/o R. E. Sartor, Box 500, North Hollywood, Calif. Here is the letter — I wish I would get more like it: "Dear Hank: My immediate plans call for me to get back overseas as a field service engineer, radar, at the earliest practicable moment, and from then on to 1959. . . . Send this letter on to Muldowney, as he might be interested to know that at precisely 100529Z, October, 1956 — to make it easy, that's 29 minutes after midnight on the 10th, Yours Truly became a grandparent. Is anybody ahead of me on this grandfather deal? Now for a quick run down: Harmony, the Class baby, completed her nurse's training, is trying for R.N., and has no further educational plans at the moment. Constance graduated valedictorian in her class at business college, promptly got married, equally promptly had a baby. No feathers on that girl. John, Jr., failed to get into M.I.T. and attends Worcester Polytechnic. Civil engineering, and he finds it rough! Surprise! Donald, against my wishes and without financial help from me, attends The Citadel. I grieve for him, expect he'll flunk out, and will give him his chance at M.I.T. after he's matured a bit. (He's too cotton-pickin' much like I was at his age.) Peg-Clem graduates from high school this year, will most likely attend a state university some place next fall, and may, I hope, major in math. And me, I can't talk about much on account they still have hush-hush and junk like that. Anyhow, it's radar. I'm happy, and while in California, am having a 'ball.' The enclosed isn't much, but after what's necessary for my subscription to the Review, put the rest in the Class gift. Trust this finds you and yours in fine health and spirits. Jack."

Dr. George E. Valley of Moon Road has been awarded the Air Force's Civilian Exceptional Service Award. It was presented by Air Force Secretary Donald A. Quarles at the Pentagon. Valley is associate director of the M.I.T. Lincoln Laboratories. Cason Rucker, a consultant



for the American Institute of Management, was a speaker last fall at the Merrimac Valley Chapter of the National Association of Cost Accountants. He is presently director of field research and chairman of the Audit Committee for his company. Alfred R. Johnson was appointed to the Finance Committee of Reading, Mass., and resides at 40 Lothrop Road. He is an attorney and is associated with the firm of Arthur D. Little, Inc.

Had a call from Bernie Nelson the other night—he told me of a meeting and cocktail party of the New York group of the Class of '35 last fall. He could not at that moment recall all who attended, but promised to send me the list soon. They are planning another such soiree in the near future, all in the interests of the Class of '35. I was unable to make the Midwinter Alumni Meeting at Walker Memorial, but Bev Dudley writes me that he sat with George Foresberg, Benjamin Blocker, William R. Weems, and Alan Q. Mowatt. Alan is president of Atlas E E Corporation in Woburn. Lou Packard was recently voted a fellow of the Institute of Radio Engineers in recognition of his engineering and administrative achievements in the radio-electronics field. He is now living in North Hollywood, Calif. Latest dope about Lou from Bev Dudley follows: "Had a telephone call this morning from L. E. Packard whose activities are too much for me to follow with the brief contacts we have. However, as I get the story from his telephone conversation, he has spent a good deal of time recently on the West Coast as president of Technology Instrument Corporation of California, in North Hollywood. This is an outgrowth of the original Technology Instrument Company of Acton, Mass., and also of the Acton Laboratories at Acton which Luke organized some years ago. In addition, Packard is establishing the Tucson Corporation, of Tucson, Ariz. Like the other firms (except Acton Laboratories which deals with environmental testing), Tucson Corporation will deal with the manufacture of components for the electronic industry. As if this is not sufficiently confusing, Packard tells me that, at the moment, he has a legal residence in Florida, and hopes to spend some time in the future at Fort Myers. He tells me he has no plans to start business there 'as yet.' We still have his address as president of Acton Laboratories, 533 Main Street, Acton, Mass. This is for your information. It's the best I could learn from a telephone conversation with a chap who evidently has a lot of irons in the fire. I haven't seen Luke for several years." By the way, fellows, if it wasn't for Bev Dudley, the Review notes would be very skimpy indeed—how about a line or two!—FRANCIS W. MULDOWNEY, JR., *Secretary*, 1109 Boylston Street, Chestnut Hill 67, Mass.

## 1936

You undoubtedly have noted that the Class notes are not always as interesting or well organized as they might be. There are many reasons for this, but the major two are *you* and *yours truly*. You modest individuals must take pencil in hand and

drop a short note in the mail and let us know what mischief you have been up to. Please don't limit it to address, occupation, and vital statistics—include some gossip. As for yours truly, I can only report the news as received. Of course, one hears many, many interesting stories while getting around the country, and I would be happy to include them if I thought there was any chance that they would get by the censors in Cambridge. As for organizing the material, my only defense is the "deadline" problem and the conditions under which the assorted bits of information are presented and reduced to writing. The January notes were started in Greenwich, Conn., and finished in Cleveland. The February notes were worked on at the Portland, Ore., and Denver Airports. These present notes are being written in Los Angeles. If there are any classmates who find themselves with time on their hands, or who have made their pile and are enjoying retirement, would they please volunteer to help do the notes once in a while? Now for some news.

W. K. Woods is now living at 1170 Mayette Avenue, San Jose 25, Calif. He is working with General Electric Company as manager of technology in the development of a large central station nuclear power plant for Commonwealth Edison Company, to be located near Chicago. Chase and Sons, Inc., North Quincy and Randolph, Mass., manufacturers of electrical insulation materials and tapes, have announced the appointment of Edward E. Stritter as chief chemist. Ed has spent a great deal of time in the compounding and processing of natural and synthetic rubbers and also plastics. Ed was formerly with Boston Woven Hose and Rubber Company, where he held various positions in the Research and Development Department. For five years he was technical director of the Plastics Division, and, the last two years, chief compounder for hose and belting. Gerard Chapman, Technical Director of the Walloomsac Division, Columbia Box Board Mills, Inc., has been announced as the winner of second prize in the Ninth Bolton Award Contest, an essay competition open to employees of all pulp and paper mills throughout the United States and Canada. His prize-winning effort brought him a check for \$750. (Jack Austin is probably already on his trail for the 25th Reunion Gift.) Gerard's essay will be published in a bound volume and might furnish some interesting reading. Title: "Here's What I Want From My Job."

Hank Lippitt sent in the following information (complete with pictures). How comes you didn't send it up to us yourself, George, by one of your private planes? The magazine article read: "Honest Career for a Ph(ony)D.: Brilliant hoaxer becomes a respected engineer. The most astounding hoaxer of all time was Marvin Hewitt. With only an incomplete high school education and a flair for science, he passed himself off as a Ph.D., and under assumed names held important teaching posts in eight United States schools and universities. When his past caught up with him, *Life* published an account of his fantastic career. Unmasked, Hewitt faced a bleak future. But

the story caught the eye of George Trimble, Jr., a vice-president of the Glenn L. Martin Company, who felt such obvious talent should not be wasted. He offered Hewitt a job. Today, at 34, Hewitt is a valued design specialist and is involved in the company's earth satellite program. A recent technical paper, "The Effect of the Earth's Oblateness and Atmosphere on a Satellite Orbit," bears an honest and unadorned name: Marvin Hewitt." Good work, George. Why not let us in on some of the other big things that you have done?

Dick Robinson has been married for a year now, but I don't recall seeing it in the notes. On March 10, 1956, he married Cornelia Cunningham of Cohasset, Mass. Cornelia is a graduate of Thayer Academy and the Radcliffe Management Training Program. She also attended Boston University. Dick was with Arthur D. Little, Inc., and lived in Arlington. How about bringing us up to date, Dick? J. K. Lacey is now a major general, U.S.A.F. He is commandant, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio. George Ray is chief preliminary design engineer, Bell Aircraft Corporation, Buffalo 5, N.Y. George is also chairman, National Advisory Committee for Aeronautics Structures Subcommittee, Member, N.A.C.A. Construction Committee. The Rays also have a new daughter (Elizabeth Dawson Ray) at their house at 1190 Ridge Road, Lewiston, N.Y. Fred Flint has been at Bell Aircraft since 1950. His first year and one half was spent working with helicopters and the remainder of missiles. Bill Boland is secretary-treasurer of the local American Meteorological Society Chapter. He is also engaged with civilian duties at Champaign Air Force Base, Ill. Bill's address is P.O. Box 604, Rantoul, Ill.

O. E. Dwyer is head of the Chemical Engineering Division at the Brookhaven National Laboratory, Upton, L.I. His big research and development project is the Liquid Metal Fuel Reactor—soon to be pilot plants. Bill Canning is chief engineer, Benrus Watch Company. Bill is married and has one son. E. F. Gaughan is superintendent of manufacturing, Kaman Aircraft. He is married and has two sons, David and Peter, and a daughter, Sandra. The big project with the Gaughan family is making a six-inch telescope. Marshall Cloyd is vice-president and assistant trust officer, First National Bank in Dallas, working with the promotion and advertising of trust business. Marshall is married and has two sons. The older son is at Phillips Academy preparing for entrance to Tech.

While in San Francisco recently, I talked with Al Horton. He is secretary-treasurer of Omite Company, a subsidiary of Standard Oil of California. They market industrial chemicals, and are the chief producer of base materials for detergents. Al is still located at 175 29th Avenue, San Francisco 21, Calif. I also tried to contact Bob Hannam while in San Francisco, but could not find his listing in the phone book. He is undoubtedly hiding behind an unlisted number due to the large number of visitors from the East. Bob, are you still at 10 Funston Avenue? I do manage to make phone calls to



nearby '36ers as I get around the country, but I don't have either the time or energy to write many letters.

While giving a brother classmate "hell" the other day for not keeping us up to date, I was stopped dead in my tracks. His most accurate statement was, "You don't practice what you preach. You haven't kept us up to date on yourself." He was right, so I will fill you in now to avoid further criticism. I head up a materials handling and process consulting firm. Because of lack of imagination we operate under the company name of James H. Leary and Associates. Our office is located in Greenwich, Conn., at 275 Greenwich Avenue. Most of our staff are "reverse commuters"—they buck the flow and commute with the maids and cleaning people from Manhattan and other New York points. Train schedules present a problem, but we all feel that it is worth it to have such pleasant working conditions. Through a happy coincidence, I happen to live at One Putnam Park in the same town. It would be very nice if I spent enough time in town to take advantage of it. Unfortunately, our work takes us all over the United States and parts of Canada. Approximately 80 per cent of our time is spent in the field. We cover all types of industries and in late years have done a large amount of work for department stores and warehouses. Many of the industrial plants are moving to southern or western locations to take advantage of more favorable labor conditions. Usually this means working at locations far removed from the New York area.

Before the war I was with United Shoe Machinery Corporation for five years in Boston. Unfortunately, I was a reserve officer and was in the first group to be called to duty. I struggled along with the National Guard and almost defunct Coast Artillery Corps until assigned to the Coast Artillery School in Virginia. Through some minor miracle, Washington stumbled on my background and arranged for a visit to the Manhattan District Project at Oak Ridge, Tenn. At last I got a chance to switch to something interesting. I transferred to the Corps of Engineers and spent the duration helping set up and maintain the atomic bomb project. After the armistice was signed with Japan, I was assigned to the War Department, and a small group of us was flown into that country to study the effects of the bombings on different types of structures. My army experience has a happy ending. I not only had the privilege of taking a minute part in the creation of the bomb, but also of being one of the first to study the extent of the damages.

Following my five years-plus Army stretch, I settled down as a partner in a construction company in Vermont. After two years in that rugged climate, my wife became ill, and it became necessary for us to move to a warmer and drier location. We did just that and settled down in Pasadena, Calif. I became senior industrial engineer for the consulting firm of Drake, Startzman, Sheahan, and Barclay in Los Angeles. I spent five years with the firm both in Los Angeles and New York. In 1950 I joined the architec-

tural and engineering firm of Abbott, Merkt and Company of New York City. I started as chief industrial engineer, and a year later was made head of the Industrial Division and a vice-president of the company. March 1956, a group from the division and myself set up our own group. We have managed to eke out a living and have some fun. Our only gripe is the travel involved.

My wife, Ann, our 13-year-old daughter, Pamela, and two miniature French poodles are the extent of our family. Ann is president of our local Women's Stock and Investment Club, and active in the Women's Exchange, League of Women Voters, the Women's Club, and 49 other clubs. This keeps her busy while I am away so much. Pam is in the fourth form (high school freshman) at Rose Mary Hall. Fortunately, or unfortunately, my traveling has eliminated any possibility of going through high school mathematics again.

So much for the Learys. I have tried to set a good example with a not-so-interesting case history. How about hearing from you gals and guys? — JIM LEARY, *Secretary*, One Putnam Park, Greenwich, Conn.

## 1937

More news on our 20th Reunion at the Belmont Hotel, in Harwich, Mass., in June. Your committee has been meeting regularly and has mapped out a terrific program for us. The response to the mailing has been very heavy, and it looks as though a great turnout will be there. So far the following fellows have said they are coming and bringing their better halves: Jim Loder, Cliff Lytle, Bob Rudy, John Jacobs, Dick Young, Albert Shulman, Edwin Hobson, J. Ferguson, Jr., M. H. Nickerson, Milton Lief, Bob Goldsmith, George Tapley, L. M. Klashman, Al Woll, E. Tibbetts, Bob Morton, Thomas Kinraide, R. G. Karch, Sidney Mank, Arch Ahmadjian, Gil Mott, Winthrop Comley, Martin Kuban, Charles Kahn, Jr., Harry Goodwin, Thomas Kieley, Phil Peters, Edward Corea, Al Busch, Win Johns, B. E. Bennison, Joe Heal, Rolf Schneider, Robert Thorson, Jerome Salny, Harvey Phipard, George Randall, John Hanlon, K. P. Goodwin, H. B. Bishop, Irwin Sagalyn, Daye Fulton, William C. Wold, J. J. Sousa, George DeArment, William Burnet, Ed Bartholomew, Jr., Wally Wojtezak, Ed Harbig, Irv Tourtellot, Jack Ostrer, Phil Dreissigacker, Jr., John Fellouris, Bob Weppeler, C. M. Dierksmier, J. Edward Lynn, Wayne Pierce, Jr., James Newman, E. C. Peterson, Art Zimmerman, Charles Cardani, G. J. Su, Charles Griffith, R. E. deRaismes, Jr., Len Seder, William McCune, Jr., and Duane Wood. Six others have said they plan to attend alone (either by necessity or by design): R. A. Dreselly, John Nugent, James McLean, Nancy Klock, S. C. Powell, Louis LaForge, Jr. Let us add your name to this growing list; I am sure you'd like to see your many friends at this gala occasion.

A few items from the clips include the news that Gordon Wilkes is a candidate for the school committee in his home town of Lynn, Mass. Larry Hough has

been moved up to the office of vice-president of the Singer Manufacturing Company in their home office in New York. He advanced there from being works manager of the Bridgeport Works. Congratulations, Larry. We hope to see you in June also.

A note from F. A. Magoun — remember psychology class? — tells that John Gould is chief chemist for the Barre Wool Combing Company. Living in Jaffrey, N.H., in a house of his own construction, he is a "big wheel" in his particular textile specialty as well as one of the effective men of public spirit in the community. Two sons and a daughter round out the family with the "1953 model being a jet-propelled lad if I ever saw one."

Duane Wood has been named vice-president in charge of operations for Lockheed Aircraft Service, Inc. Jim McLean has been named president of Hoffman Laboratories, Inc., in Los Angeles, Calif. Jim went to Hoffman from Philco Corporation, where he was vice-president and general manager of the Government and Industrial Division. In his new job, Jim will have full responsibility for all phases of work carried on by Hoffman for the Armed Forces in the engineering, design, and production of advanced electronics and electromechanical projects. Hoffman Laboratories has over 400 engineers and 2,200 employees in the Los Angeles facility, and 12 engineering service centers throughout the United States and Alaska. At present they are working on more than 50 active projects in the fields of radar, communications, navigation, electronic counter-measures, drones, sonar, fire controls, and guided missile control systems, as well as related systems engineering. Congratulations to you, Jim. — WINTHROP JOHNS, *Secretary*, 766 Hyslip Avenue, Westfield, N.J.

## 1938

Notes this month aren't very plentiful, but they are better than we've done the last couple of months. As a matter of fact, we needed that time to accumulate what we now have.

First on the list is Bob York. Last November Bob was honored by *Chemical Engineering* as the Man of the Month. Any of you who have access to the magazine will want to read this complimentary article. Bob is now with the School of Chemical Engineering, Cornell University. Last fall Lyndon Crawford was a speaker at a meeting of the New England section, Society of Naval Architects and Marine Engineers. With an associate, he discussed the building of the *Nautilus* and other nuclear-powered submarines. With this introduction it might not be hard to guess that Lyndon is with the Electric Boat Division of General Dynamics. Lyndon is a supervising engineer and lives in Old Lyme.

One member of the Class has decided to return to school for awhile. Bob Flynn is now a member of the freshman class at the School of Law, New York University. A brief note from Norris Barr tells us that he "Left Rheem Manufacturing Company. Joined Minneapolis-Honeywell as systems project engineer." — DAVID E.

## 1939

Christmas has come and gone, but greetings were welcome from the Maynard Drury of Long Island, Mike and Jean Herasimchuk from Pittsburgh, Aletta and Bob Touzalin from Cleveland, Bob and Sybil Saunders from Fayetteville, S.C., and Sam and Elaine Sensiper here in Los Angeles. Sid Silbur sent a fruitcake from his bakery in Baltimore, and I can testify that Sid certainly has the touch with his Mixmaster.

Wiley Corl is manager of utilities with Kuljian Corporation, and suggests that anyone needing some powerful treatment write him for details. Bob Fife is our neighbor, and last year he built an office building nearby. Now he is in the enviable position of being able to practice law and not have a commuting problem. The Gus Hunicks and the Bill Wingards sent pictures of their youngsters. Oops, used the wrong word — the youngsters are not so young any more, and are getting up in the preparatory school and junior college age bracket now. How time flies! Martha and Phil Epifano wrote from Bridgeport where Phil is busy with his contracting business. Wonder if he has time for recitations these days? I regret to say I saw more of Woody Baldwin in Los Angeles when I was flying around the world on business than I do now that I live some five miles west of him as the crow flies. Well, dropping that one, I can report that I saw him the other night at Alumni meeting, and learned that he has changed firms and is now with some of the "Cloud Nine" boys doing super-secret work on hush-hush projects concerning guided missiles, etc.

In one of his few letters to me since 1939, Bill Pulver wrote to protest that inferences from my November notes (he sold his oil company to Tidewater Oil Company) have prompted a number of people to write him requesting contributions, and payment of back taxes. Bill went on to say that this was all wrong, and would I please correct the impression. So, here goes: Sorry, Bill, for the deluge, and I am sure all our classmates join me in the hope that while you may lose money on the individual sale you may make it up on the volume.

Al Laker, still gay and single, is secretary of the Brick Association of Southern California. Al attended our New Year's Eve party and did a noble job on some recitations. George Cremer calls every now and then when he is in from San Diego. George is busier than ever, but my bet is that he will be busier than that soon. If classmates feel the urge, why not call him at, say, 2:00 A.M., San Diego time — George may be up at that time on a little project.

Newspapers report the net is way up at Polaroid. Since that usually starts in Sales, and since Bob Casselman is vice-president of Sales there, here's "hats off" to you, Bob. Mary and Jim Barton wrote from Seattle. Didn't say much about skiing or square dancing, so guess Jim is busy with the fiscal affairs of Boeing, which employs some 50,000 people these

days. Don't remember details, but I do remember that Professor Morrie Nicholson (of the Wisconsin-Minnesota area) has written another technical paper which was recently published in the *Journal of Metals* or a sister publication.

Am pleased to report that all is well on the home front. We are enjoying good health and are still eating regularly in spite of my new venture in the manganese business. At present I am in the middle of engineering a plant to produce manganese concentrate, and am concurrently trying to raise some fraction of \$165,000 to build the mill. Am finding that the engineering is succeeding, but raising that kind of money from outsiders and for a project in the mining field requires some peculiar selling. Well, if we succeed I'll make a substantial contribution to the 20th reunion. And if we don't, will suggest you send old clothes and any other useful donations to yours truly at address below. In the meantime, and without the donations for now, please, how about some news to pass along? — HAL SEYKOTA, Assistant Secretary, 416 Calle Mayor, Redondo Beach, Calif.

## 1940

Louis Michelson, who is manager of General Electric's Rocket Engine Section, recently addressed the Southern Ohio Section of the American Rocket Society on the topic, "Powering Man's First Earth Satellite." The growing list of publications by members of the Class has been swelled by the new book on *Introduction to Numerical Analysis* by Frank Hildebrand.

Jeoh Pei, who is associated with Webb and Knapp as an architect, gave a lecture in Cincinnati at the Contemporary Arts Center on "The Future of the American City." He pointed out that families would continue to move away from cities to suburban areas unless city planners acted to make the conditions more attractive inside the cities themselves. Causes of the growth of the suburbs and the flight from the cities were attributed to crowded streets, inadequate parking, lack of recreation, and general unattractiveness of the cities themselves. — ALVIN GUTTAG, Secretary, Cushman, Darby and Cushman, American Security Building, Washington 5, D.C. SAMUEL A. GOLDBLITH, Assistant Secretary, Department of Food Technology, M.I.T., Cambridge 39, Mass. MARSHALL D. MCCUEN, Assistant Secretary, 4968 West 14th Street, Indianapolis, Ind.

## 1941

Carl Stewart is continuing to make steady progress in his recovery from an attack of polio on September 10. Marge writes (January 19): "Carl's nicest Christmas present was having the children at his bedside for the first time (they'd seen him twice through glass). He is now finished with the iron lung, and is on the rocking bed. His record for breathing while the bed is stopped is quite good, too, and is up to 40 minutes. Quite a task, learning to breathe all over again with new muscles. His spirits remain very

high, and his utmost patience is remarkable." Both Carl and Marge appreciate very much the letters and cards they've received from members of the Class, and they've asked me to thank you all for them. Keep up the good work. Address: C. M. Stewart, 1498 Letchworth Road, Camp Hill, Pa.

Ed Beaupre has been made contract manager and assistant to the president of Electronics Corporation of America, at 1 Memorial Drive in Cambridge. Ed has managed a construction firm in his home town of Nashua, N.H., and, since 1954, had been with L. E. Mason and Company, a metalworking firm, as assistant to the president. During the war, he was in charge of ammunition contracting and production with the Boston Ordnance District, U. S. Army. For his work on this assignment, he received a commendation from the Chief of Ordnance, and he eventually reached the rank of lieutenant colonel. Later, as a civilian with the Ordnance Corps, he was small business specialist for the Boston district, and chairman, Armed Forces Regional Council Procurement Panel, concerned with procurement for all the services. Ed and Alice have four children, the eldest being an attractive young lady of about 15, who is already the center of a considerable social whirl.

Our Secretary "emeritus," Stan Backer, was recently guest speaker at a meeting of the Textile Society of Canada in Montreal. Stan is now an assistant professor at the Institute, as well as a member of the Committee on Textile Fabrics of the National Academy of Sciences — National Research Council, Advisory Board on Quartermaster Research and Development. Also on the platform was Burnham Kelly, Associate Professor of City Planning, who spoke on "Housing and City Planning" at the Worcester Art Museum. Grace Keenan of West Bridgewater, Supervisor of Health Education in the Brockton schools, has been elected to Ordinary Membership in the Royal Society of Health of Great Britain, as a result of her outstanding work in health education. Ordinary Membership, despite the name, is the highest grade of membership to which any person may be directly elected. Miss Keenan is also a fellow in the American Public Health Association. A notice from California Institute of Technology tells us that Frank Mayer has enrolled as a graduate student, working toward a master's degree in aeronautics. The M.I.T. Club of Taiwan recently visited the U.S.S. *Saint Paul* as guests of Captain Denys W. Knoll, Chief of Staff of the Commander, Seventh Fleet, and Captain Richard C. Steere, Plans Officer of the Seventh Fleet. Both officers received master's degrees from M.I.T. in 1939 and 1941, respectively. A more complete account of this event can be found in the March issue Taiwan notes.

The death of Major Henry W. Hofmann, of Perrine, Fla., on September 18, 1956, has been reported to the Alumni Register. No other details were given. — IVOR W. COLLINS, Secretary, 28 Sherman Road, Wakefield, Mass. HENRY AVERY, Assistant Secretary, Pittsburgh Coke and Chemical Company, Grant Building, Pittsburgh 19, Pa.



It is with a very heavy heart that we record the death of Major John S. Arend. He was killed in the crash of his B-47 stratojet bomber while preparing to land at Homestead Air Force Base in Florida. He will be long remembered by the many of us who treasure his keen sense of humor and warm good fellowship. John's serious side was manifested not only by his continued service in the Strategic Air Command, but also by his studies and teaching in higher mathematics. He is survived by his wife, Bonnie, two children, Patricia and James Spencer, and his parents. His father is F. Spencer Arend '10.

It is my sad duty to report a second death in our Class. Lieutenant Colonel Arthur R. Frithsen of Rockport, Mass., died after a distinguished career in the Aircraft Nuclear Propulsion Program. He is survived by his wife, Constance, who recently received his posthumously awarded Commendation Ribbon with the following citation: "Lieutenant Colonel Frithsen contributed signally to the national security and reflected great credit upon himself, the U.S. Air Force, and the U.S. Atomic Energy Commission." Arthur was a graduate student with us.

On the far more cheerful side is news that Ronald E. Shainin has been promoted to contract administration manager of Bell Aircraft Corporation in Buffalo. Richard Leggett, a graduate student in meteorology with us, has recently been appointed associate actuary of the Travelers Life Insurance Company. Before Tech and after military service as a weather officer in Newfoundland and Greenland, his work was at the Travelers in various actuarial capacities. Frederick W. Gander was recently appointed director of the River Road Yerkes Research Laboratory of E. I. du Pont de Nemours and Company. Fred has been very busy with chemical engineering research at Du Pont for the past 11 years, but his letter indicated that he is concentrating right now on plans for Hazel and himself to spend a pleasant reunion week end with lots of old friends at the Chatham Bars Inn, next June 7, 8, and 9.

The Reunion Committee in plenary session now announces some of the advance prizes, to wit: One guaranteed electric blanket from Frank Staszsky of Boston Edison, lots of Polaroid film for taking snapshots from Rod Flinchbaugh of Polaroid, an assortment of notions and first-aid kits from Milt Platt of Fabric Research Laboratory, a set of handsome Malloware unbreakable dishes from Paul Hotte of Mallory, and a G.I. series from Dr. Martin Levene of the Shattuck Memorial Hospital. It was announced that our good friends from the Class of '43 will again have representatives present to observe and join in the festivities. We are particularly indebted to Dick Feingold who, on the occasion of our 10th, contributed not only conviviality but also photographic prowess in recording our faces, fun, spouses, and changing physiognomy.

By a roundabout device we have learned of the activities of Arnold C. and Anne Fields. The Malden, Mass., Press

published a personal letter that Anne had written to Judge Emma Fall Schofield, an old friend. After 10 years on the design of electrostatic precipitators for Westinghouse, Arn left to join a small consulting engineering firm. On the side he has been working on the Medfield school building committee, teaching Sunday School and participating in sports car rallies with his M.G. Come June, Arnold and Anne are expecting a sibling to Bobby, six, Merry, five, and Dick, two. Anne keeps busy with Sunday school, church work, Parent-Teachers Association, and the League of Women Voters!

A note of greeting to all and a promise to be at the Reunion from Dave and Arline Nicholson. A card from Bob and Ann Fay tells us of the arrival, on December 30, of Michael Ford Fay to join his older brother and three sisters. We had a wedding notice of the marriage of the former Jacqueline Lousteau Vazquez to William Parks Van Nostrand. The ceremony took place in the Middle Collegiate Church in New York City. Bill's bride is a graduate of the French Lycee, Lisbon, Portugal. Dr. Milton M. Platt, Vice-president and Associate Director of Fabric Research Laboratories, has been named a member of the committee on textile fabrics of the National Academy of Sciences - National Research Council, Advisory Board on Quartermaster Research and Development.

Of interest to all squash players was a warm testimonial banquet for Jack Summers who recently resigned after many, many years as squash coach. About 25 local operators joined Jack Sheetz of the committee and your secretary to toast and tell tall tales about our good friend. — LOU ROSENBLUM, *Secretary*, Photon, Inc., 58 Charles Street, Cambridge 41, Mass.

## 1943

We have quite a few promotions to announce in the notes this month, indicative of the progress our gang is making in the 14 years following graduation. Al Brodie is the new sales vice-president of Feedback Controls, Inc., of Waltham, Mass., a manufacturer of components and systems for control and computation. Previous to his joining this company Al was on foreign assignments for California-Texas Oil Company for about nine years. Ben Parran has been appointed project leader in the newly formed Technical Military Planning Operation of General Electric Company at Santa Barbara, Calif. Ben has been with General Electric since 1951.

Sid Siegel is the newly-appointed engineering manager of Metals and Controls Corporation of Attleboro, Mass., the country's largest privately-owned plant making nuclear fuel elements. Bob Meissner, of John F. Meissner Engineers, Inc., was quite active in the planning of the M.I.T. Mid-America Conference held in Chicago in February. Bob is vice-president of the M.I.T. Club of Chicago. John Peterson has been appointed sales manager of the Midwestern region of Polymer Chemicals Division of W. R. Grace and company, with offices in Chicago. John was with Du Pont following his Navy

service, then with the Westvaco Chemical Division of Food and Chemicals Corporation as sales manager. The Petersons live in Northfield, Ill., with their four children.

Ellen Hosley, Hap's wife, wrote as follows: "The Tech Review came in this morning's mail, and before another comes and goes, I shall do what I have meant to do since last August. Namely, announce another addition to our family, born August 25, 1956 - Thomas Gregory Hosley. His sister, MaryLu, was born June 29, 1951, and Loring Frederick, 3d, was born August 12, 1955. (Nickname: Joe.) We are still living in the home we bought just before Joe was born, and we are gradually settling down pleasantly. Haddonfield, N.J., is a lovely town and we are very happy - and very busy. Hap and I met Tink and Greg Azarian for the Princeton-Yale game in Connecticut last fall. From there we went on to meet their two daughters, who were with Greg's mother for the week end, before having a 'party.'"

The above is the sort of letter I love to receive, and I hereby direct all wives to write soon and often to this lonesome Class secretary. Equally as good as a letter is a personal visit, such as I had this week with Vic Darnell, of Kensington, Conn., who is with the Berlin Construction Company, fabricators of structural steel. Vic is very active in civic affairs, serving on the Zoning Board of Appeals and the School Building Committee, as well as helping direct his church's affairs. He had news about Tom Dyer, who is engineer in charge of maintenance of way for the Boston and Maine Railroad. He inquired about Jim Libby, another civil engineer, and I was able to report that I had just received a notice of change of address for Jim, from Kabul, Afghanistan, to Mill Valley, Calif.

Other major changes of address are: Ed Czar from Syosset, N.Y., to Kennebunk, Maine; Barry Russell from Oklahoma to Houston, Texas; and John Stetson from Glenview, Ill., to Teheran, Iran. Don Campbell, who received his doctor's degree with our Class, passed away on January 15, 1957, in Boston. Many of us knew Don when he was at the servomechanisms laboratory at M.I.T., and later when he was professor in electrical engineering. He had recently formed his own consulting firm. The Class extends its sympathies to his wife. — RICHARD M. FEINGOLD, *Secretary*, 49 Pearl Street, Hartford 3, Conn.

## 1945

Happy Easter. As I start these notes I can see the snow continue to fall; as you read these notes you have just mowed the lawn for the first time, or did you just shoot your first round of golf this morning?

Christmas brought with it the usual assortment of cards and notes, upon which these notes have been prepared for the most part. Jerry Patterson reports that the only additions to his family in '56 was a beagle hound and a Volkswagen. It would appear that Jerry and Lib will forever remain in Binghamton as Pat is slowly acquiring an interest in the structural steel outfit for which he works



through a stock option developed for Pat and his brother. Your secretary was a bit hasty in announcing Vince Butler's promotion to lieutenant commander; it now appears that Vince's signal number is the cutoff point for the promotion zone. Five will get you ten he doesn't make the grade until next year. J. J. Strnad's card announced the birth of Nina Phelps, born August 31, 1956 — she joins an older brother and sister. Belated congratulations.

Pete and Lou Hickey had an unusual card portraying a Christmas club check upon which appeared snaps of the four offspring. I saw the four kids last fall; Lisa is an image of her adorable mother, and the twins look more like Pete's father or brother Bill than Pete himself. Our Oklahoma oil prospector, Julian Busby, reports he saw George Upton in Dallas last spring. The Uptons have three boys, and, from what Buzz reports, George has discarded some of the puritanical traits New Hampshire has made famous. When Buzz hits his first big well he promises Cadillacs for all! I talked with Prexy Dave Trageser several times in early December, and I am most thankful for the small part I played in helping place three Hungarian families in Dave's town of Wayland. Dave, as many of you know, was chairman of the Fund Drive in Wayland this year. Only four '45'ers attended this year's Annual Midwinter Meeting. Dave Flood, Charlie Hart, Bob Maglathlin, and Trageser. Bob recently left Laboratory for Electronics to start an electronics outfit of his own, Electronics Systems, Inc., is presently located at 43 Leon Street, Boston 15; they will do design work on electronic components for radar and other high frequency systems. The best of luck, Bob. Dave further reported that Bill Loeb of Nuclear Development Associates was one of the principal speakers at the Atomic Industrial Forum's annual meeting in Chicago last September.

Ed Stoltz reports that he was transferred by Johns-Manville from Wheeling, W. Va., to Pittsburgh in mid-1955. As one might expect, the move was not made until mid-December; two weeks later young Eddie arrived and thus whipped the Internal Revenue boys by just a few hours! In March 1956 the Stoltzes bought a home in Mt. Lebanon only a couple of blocks from Andy Marocchi who, incidentally, is with the Atomic Division of Westinghouse. Ed reports that the past year has been spent modernizing and redecorating — the yearly pastime of all home owners. Of course, Ed sees the '45 contingent quite regularly, as well as George Ley'46.

In early January, Wilbur F. Young, Inc., Absorbine, Jr., manufacturer in Springfield, Mass., announced the promotion of Wilbur F. Young, 3d, to general manager of the company. Mr. Young represents the third generation in the company; he also serves as a board member and treasurer. Wil joined the firm after graduating from Yale in 1947. He is quite active in community affairs in Springfield. Dr. Francis N. Lebaron of Needham, Mass., was recently appointed a research associate in biological chemistry at Harvard Medical School. One of the high lights of Trageser's Christmas was the

receipt, at long last, of a missile from Phoenix, Ariz., and Jim Hoaglund. We are pleased to include it as part of our notes: "Dear Friends and Relations: Herewith the fourth annual report from the Hoaglund-Lamb association. The only change in our vital statistics, besides one year's advance in age, concerns our animal members. Tina was returned to the pound whence she came after she bit three children. Tiger met her untimely demise while crossing the street on one of the five rainy nights we have had this year. Bambi died while in the care of neighbors while we were on our vacation. All three have been replaced by Chester, Stripes, and Bambi, Jr. Chester is a beagle, a real Pagliacci in reverse, and a fine fellow.

"As to our family health, we have not required the services of a doctor since the cast came off Johnny's leg in February of 1955. We have had a wonderful year, as we hope the rest of you have. High spots were a trip to San Francisco by the senior members of the family in April and a vacation in Colorado by all members except feline and rodent. Two families of five, each with dog, spent two weeks camping in Southwestern Colorado from Cortez to Ouray (pronounced Youray) to Durango. On our way home we visited the Canyon de Chelly in northern Arizona, a breath-taking place. We had some rain, which makes camping difficult with six children and two dogs, but on the whole we had a wonderful time. We certainly filled our souls with sights and sounds. Rushing water especially is a real treat to desert dwellers.

"All the children go to school a full day now. Their mother wonders where is all that spare time she was going to have when that great day arrived. Phoenix pays its teachers almost a living wage, so our schools are relatively good. The children's grades are better in subject matter than in deportment, due to an excess of conversation during class. All three take piano lessons, which John and Nora enjoy. Judy would rather catch bugs or make sand-paintings in the alley.

"Carns-Hoaglund Company is coming along with the standard problems of a young business, mostly tight money these days. In August the company moved into its own new building comprising 3,000 square feet of office and storeroom space plus parking lot. Business is good although highly competitive. Aside from home and business chores, Ma and Pa Hoaglund busy themselves with church, Parent-Teachers' Association, a little politics, the Arizona Chapter of the Society of Heating and Air Conditioning Engineers (whew!), of which Jim is president this year, and trying to catch up in our reading. We also enjoy listening to our 'small-fi,' from Bach to Brubeck.

"As Christmas time rolls around again, we are increasingly aware of, and thankful for, our many blessings. We hope that the year has been as good to you as it has to us. Perhaps before too many more years, the whole world may know the peace and freedom that we have here. Our best to all of you and to your families. The welcome in Phoenix (110 degrees in summer) for any of you who

may come out our way." — C. H. SPRINGER, Secretary, 420 Lexington Avenue, New York, N.Y.

## 1946

You may recall that in the November issue of these notes I reported that at our reunion last summer it was decided to have the secretary prepare an up-to-date directory of the Class. Plans are under way for such a directory. It will contain the names and addresses of each person officially associated with our Class in any way whatsoever — approximately 1,300 people. There will be a last name alphabetical list as well as a listing according to states and foreign countries. Such a listing cannot be guaranteed 100 per cent accurate, of course, since changes in address are being made daily. However, the basis for the list is a run of IBM cards made by the Institute last summer containing the latest information available at the time, combined with approximately 250 letters, questionnaires, and other forms of communications received by both the Institute and myself since last summer. Among the group of people who have not communicated with the Institute for years there will obviously be incorrect addresses, but the vast majority should be correct. The charge for the directory will be \$1.00 per copy.

It is going to take a lot of work to prepare this directory, so there is one condition we have laid down before going ahead with the preparation, and that is that we will wait until we receive at least 50 orders for it, with check included. If no more than 50 people actually want it, there is very little purpose in going to all that work. So please sit right down now and send me a letter and check to the below address. If there turns out to be less than 50 people interested in the directory we will return your checks. Also, if we find that we make money on the project, then the excess will be added to the Class treasury. One other comment. If you write immediately, we will be able to double check your address for accuracy. Also, how about including the latest information about yourself and family if you have not recently sent in a questionnaire?

Speaking of questionnaires, they are still coming in. Ted Heuchling lives with his wife, Mildred, and their children, Donna and Teddy, at 43 Holden Wood Road, Concord, Mass. Ted earned his S.M. at Tech and then was a staff member of the M.I.T. Servomechanisms Laboratory for five years. He then worked at Ultrasonic Corporation for four years. Then he became chief engineer of Feedback Controls, Inc., of Waltham, Mass. Ted has just recently been appointed engineering vice-president of that firm. Congratulations, Ted. Daniel Glumicich is a job coordinator for the Limbach Company in Pittsburgh, Pa., a mechanical contracting firm. Dan lives at 509 Pitt Street, Pittsburgh 21, Pa. Hillman Dickinson, his wife and two children live at Quarters 9-A, West Point, N.Y., where Hillman is an instructor in the Department of Physics and Chemistry at the U.S. Military Academy, and is an Army captain. After receiving his M.A.

in physics at Columbia University, he was a tank company commander in Germany for three years, and travelled extensively in Europe.

Maurice Dunne, Jr., lives at 933 Hill Road, Winnetka, Ill., and is an account executive with Grant Advertising, Inc., in Chicago. He received his M.B.A. from Harvard Business School. In addition to his advertising work he is also a lecturer at the University of Chicago Graduate School of Business. Robert H. Marks lives at 325 Clinton Avenue, Brooklyn 5, N.Y. He has just recently joined McGraw-Hill Publishing Company as assistant editor of *Power* magazine. Bob has been active in the submarine and surface Naval Reserve since V-12 days, and recently spent his two-week annual training duty at Key West, Fla. Herb Hansell lives at 2843 Southington Road, Shaker Heights 20, Ohio, and is a lawyer with the firm of Jones, Day, Cockley and Reavis in Cleveland. The Hansells have two boys, David and James. Herb, as well as being president of our Class, is also vice-president of the M.I.T. Club of Cleveland. Antonio Carlos M. Nunes writes from Rua Paulo Cezar de Andrade 106, Rio de Janeiro, Brazil, to say that he is married and has four boys and two girls; is the honorary secretary of M.I.T. in Rio de Janeiro; since graduation has travelled five times to the United States and twice to Europe; is the superintendent of the Chemical Division of the Societe Anonyme du Gaz de Rio de Janeiro, a division which was created, as a result of his efforts, to handle coal by-products of the parent company. Another report from South America comes from C. F. Secada who lives at San Gabriel 1475 San Isidro, Lima, Peru. He left the Navy in 1950 to manage a factory which developed tubular prefabricated roof structures, and he is also the chairman of a commission to study the development of port facilities in Peru. The Secadas have four boys.

From not so far south comes word of Manuel R. Llaguno Farias, who lives at Colonia Santa Maria, Monterrey, N. L., Mexico. Manuel is the general manager of family textile mills, devoted to manufacturing fine cotton yarns and cloth. He reports that the mills have grown considerably in the post-war years and are now in a prominent position within the Mexican textile industry. They have two boys and two girls, and are planning to move soon to a new home on the outskirts of Monterrey. Manuel has done some teaching at the Management School in Instituto Tecnológico y de Estudios Superiores de Monterrey, has been a member of the board of trustees of that school, is president Comité Pro-Escuela Mision de la Tarahumara, is vice-president of the Monterrey Chamber of Commerce (when you visit Mexico, visit Monterrey), and is on the Board of Directors of the Red Cross Delegation of Monterrey.

Another southerner. Ricardo Azuero, writes, not from his Colombian home, but from Taptogatan 6, Göteborg, Sweden, to say: "Presently I am head of ship-building supervision for the Colombian Navy in Sweden, and have been at it since 1954. The work is extremely interesting since I am in continuous contact with Sweden's biggest and most modern

shipyards. Until September 1953 I had been working as head of the technical department in the Naval Base at Cartagena, Colombia, when I was appointed Commandant of same. I have two children, Katia, nine, who is attending school in Göteborg, and Ivan, four, whose main duty is bothering everybody's life at home. In connection with my work I travel through Sweden, Denmark, Germany, and the Netherlands. For holidays we have been in Switzerland, Italy, France, England, and Norway. If you hear of some M.I.T. men coming my way, don't hesitate to refer them to me; it would indeed be a very great pleasure to see them."

William H. Schield, Jr., is treasurer of a family business, Artbilt Furniture Company, Milwaukee, manufacturers of upholstered furniture for domestic and commercial use. The Schields live at 2723 E. Newton Avenue, Milwaukee 11, Wis., and have two girls and a boy. Bill is secretary of the M.I.T. Club of Milwaukee, Regional Director for M.I.T. Alumni Fund, and is active in Community Chest solicitation and Parent-Teachers Association work. He was recalled to the Navy in 1952 for two years and spent them in Korea and Japan. Robert E. Latimer, who attended graduate school in 1946, is a process design consultant and section head in the Engineering Laboratory of Linde Air Products Company, Tonawanda, N.Y. The Latimers and their three children live at 424 Southwood Drive, Kenmore 23, N.Y. Bob holds a B.S. degree in chemical engineering from Iowa, M.S. from Columbia, and is a graduate of the Army Command and General Staff College. He was director of the Command and General Staff College Department of the Buffalo, N.Y., Army Reserve School in 1951-1953. He currently is a lieutenant colonel, Corps of Engineers, 27th Armored Division, New York National Guard. He presented a technical paper on vapor-liquid equilibrium of nitrogen-argon-oxygen mixtures at the A.I.Ch.E. National Meeting at Pittsburgh last September, and it was later published in the *Journal of the American Institute of Chemical Engineers*. William J. Rapoport is a salesman for American Cyanamid Company, selling intermediates to the chemical industry. The Rapoports and son live at 3585 Normandy Road, Shaker Heights, Ohio.

Since receiving his S.M. in chemical engineering at M.I.T. in 1947, J. Graham McQuarrie has worked for Monsanto, and is currently assistant superintendent of Production Coordination at their plant in Texas City, Texas. The work consists of supervising special activities groups, covering electronic data processing, statistical quality control, cost evaluation, and special reports for management. He is married, has two sons, and they live at 315 21st Avenue, N., Texas City, Texas. He is active in Boy Scouts, in the American Institute of Chemical Engineers, and the American Society for Quality Control, as well as being treasurer of a flying club, the "Galveston Flying Eagles."

Angus N. MacDonald is a partner of Braxton and Company, New York firm of financial consultants. The MacDonalds and their three girls live at 84 Kings

Highway, Westport, Conn. Dr. Edmund Colon Gauden is chief, Medical Chest Section, Veterans' Administration Hospital, as well as clinical instructor of medicine,\* University of Oregon Medical School, Portland, Ore. The Gaudens and their three boys and one girl live at 1000 E. 10th Street, Vancouver, Wash. The Ernest U. Buckmans and three children live at 270 Grant Street, Sewickley, Pa. Ernie is a salesman for Lionel D. Edie and Company, Inc., Investment Counselors and Economic Consultants in Pittsburgh. Robert and Joan Hughes have three sons and live at 6880 Saroni Drive, Oakland 11, Calif. Bob is a reporter for the San Francisco *Chronicle*.

Walter W. Lund, Jr., is a senior engineer working on electronic fire control systems for Northrop Aircraft, Inc., and lives at 14711 Fonthill Avenue, Hawthorne, Calif. He is married and has two daughters. Walt received his M.S. in electrical engineering from the University of Southern California in 1956, and is an instructor at that university. He is also a senior member of the Institute of Radio Engineers. F. Thomas Westcott is vice-president of the Westcott Construction Corporation, Attleboro, and the Westcotts and their three children live at 38 Commonwealth Avenue, Attleboro, Mass. Robert and Rose Wentsch and their two children live at 285 William Street, West Hempstead, N.Y. Bob is a project engineer, working on turbo-jet engine development for the Fairchild Engine Division of Fairchild Engine and Aircraft Company, Deer Park, N.Y. David G. Black, Jr., is manager of the Heater Department of the Connecticut Hard Rubber Company, New Haven, Conn. They specialize in the manufacture of thin, flexible electric heating blankets. Dave travels around the country and to Canada about once a year in connection with his aircraft industry accounts. The Blacks and their four children live at RFD No. 2, Bethany, New Haven 15, Conn. They ski and sail when they can find the time, but according to Dave it isn't often enough.

That's about all for this month. As I mentioned earlier, I've been swamped with the return of the questionnaires, and I want again to thank everyone who responded. I still have a two-inch stack of them to use in the next few months, so don't forget to read next month's Review. And also don't forget to send in your request and check for the directory. Any new news you can include about yourself or others will also be appreciated. — JOHN A. MAYNARD, *Secretary*, 15 Cabot Street, Winchester, Mass.

## 1947

Excitement mounts! At least it does for me, and I hope I am able to convey some of the feeling to you. As you read this, the Reunion week end of June 8 and 9 in Lenox is only two months off. Think of the pleasure of shaking hands, of pounding backs, of buying drinks (or having them bought for you) with classmates you may not have seen for 10 years. Golly gee, I can't wait. But what a bitter disappointment if none of you show up to provide this highly desirable mutual ca-



maraderie. So make your reservations, engage baby sitters, pack your bags, fill the tank with gas, buy compass and map, and head for Lenox. Do it now! (All but the last, of course. That must wait for June.) Lee Hanower, who attended our fifth, was stimulated to write on the occasion of our tenth as follows: "Some time ago I received a notice of '47's coming reunion, and it brought back memories of the last one. It also brought back memories of promising to do a better job of keeping you posted on events of interest. The notice has long since been misplaced, but your splendid Class notes in a recent issue of *The Review* revived my intentions to write to you.

"When I saw you last — at Cliff House, wasn't it? — I was working for Monsanto Chemical at Springfield. I believe that I was then entertaining thoughts of leaving them, but I didn't make the break until August. In September, 1952, I came here to New York City to work for the Nitrogen Division of Allied Chemical and Dye Corporation. I went into their Product Development Department, and enjoyed life while doing various jobs associated with getting the company into new products. This idyll lasted for two years until a man came along and offered me an even greener field. In September of 1954 I went to work for Ebasco Services as a business analyst in their Corporate Finance Department. This high-sounding setup turned out to be a real lark. It took me around the country a good deal, and included one delightful trip to Europe. The work involved several phases of business consulting in its broadest sense.

"Just about a year ago, Nitrogen Division, my former employer, offered me the job I now have — Director of Market Research. The title is self-explanatory. Last March was a big month in another way, too — I got married. My wife, formerly Gloria Jane Frankel, hails from Wilkes-Barre, Pa., but lived in New York for a couple of years before our marriage. We moved to New Rochelle last fall. I saw your native heath last December. I was on a field trip in Africa for the company, and got as far as Johannesburg. It certainly is a bustling metropolis. The only incongruous aspect is the several large mine dumps that dot the horizon. Africa as a whole impressed me as remarkably developed. After seeing parking meters in the middle of Rhodesia, I was prepared for almost anything."

I must admit to some small envy, Lee. I haven't been back to my "native heath" since the middle of 1948 — but I do have a certain amount of ambivalence about wanting to return for a visit. I have just recently taken the oath of citizenship in this country — after 18 years of almost continuous residence (but only two years of eligibility) — and South Africa is beginning to seem just a bit remote. I think my identification with this country is now complete.

A slightly dated Christmas card, recently received, under the insignia of the Texas Butadiene and Chemical Corporation comes from Larry Michel with the note: "Class dues enclosed, better late than never (I hope). And belated Christmas greetings, too. Sent the picture as my excuse for not having complied sooner.

Have been here in Houston vicinity for almost one and a half years getting a plant designed, built, and just now started up. My function is to head up [word indecipherable — really, Larry!] technical service, a cross between troubleshooting and emptying wastebaskets. We expect to be in Beantown this summer, but possibly July, not June, so don't count on us, although we'd very much like to make it. Elizabeth and I now have produced three: James, six, Richard, three, and Sarah, one. Life in Texas certainly requires adjustment after so many happy years in Boston, and I'll let you read in between the lines. But if another person tells us we'll never want to go back North after another year, we'll scream. Our best to all, and don't eat up all the lobsters. Hope to see you in July if not in June." And Bob Seidler writes: "Here is my check for \$10. Right now it appears quite likely that my wife and I will be at the 10th Reunion in June. I'll look forward to hearing more about it." Others who have forwarded their dues are Carroll Andrews, Mort Loewenthal, and Alex Pastuhov.

The Midwinter Alumni Meeting at Walker Memorial last January brought out a number of classmates to hear the discussion on Technology and International Relations. Bob Michaud was there. He is now a project engineer with Computer Control Corporation in Wellesley, has been married three years, and he and his wife, Ellen, have a 16-month-old daughter, Elizabeth Ellen. Others at the table were Israel Cramer who works at the Instrumentation Laboratory at the Institute and is still single; Jim Burns — ever mustachioed and cigarred (he's with Raytheon); Marty Haas, who plies his trade at the Air Force Cambridge Research Center; and Warren Himmelberger, who took graduate studies with our Class. Recently, I had occasion to visit the beautiful campus of the University of Michigan at Ann Arbor on a recruiting trip for my company, Allied Research Associates, Inc. I discovered, much to my delight, that Gabe Isakson, who is an associate professor in the Aeronautical Engineering Department at the University of Michigan, was faculty liaison officer for our visit. We enjoyed a most pleasant lunch together, and when the day's duties were complete, Gabe very graciously invited me and my colleague to have dinner with him at his home. Ann is a superb cook; and their two boys, Gordon, four and a half, and Peter, three, were vastly entertaining. Gabe is more than a classmate to me; he was my mentor when I worked in the Aeroelastic and Structures Research Laboratory at the Institute some years ago.

Just a few items in closing. Victor Savchuk has been appointed head of the Sonar Group in the Research and Advanced Development Department of the Stromberg-Carlson, a division of the General Dynamics Corporation. Before joining Stromberg-Carlson last fall, Victor, who is married and has two children, specialized in electroacoustics at the Navy's Underwater Sound Laboratory in New London, Conn. He also had been employed by the Sanborn Company in Cambridge, and served as a staff mem-

ber in the Acoustics Laboratory at Tech. Larry Levine has been appointed vice-president in charge of engineering by the directors of the Belock Instrument Corporation, College Point, L.I., N.Y. Larry had formerly been a senior project engineer at Tech's Instrumentation Laboratory. An article forwarded from the *Milwaukee Sentinel* tells of the invention of Earl Dionne. Earl, a graduate of Course XVI, entered St. Francis Seminary in 1952 to study for the priesthood. He has developed a cardboard device, which he calls the "rubricator," that shows instantly the positions of all the ministers of solemn masses at any part of the mass. In devising the instrument Earl reportedly related his knowledge of time and motion problems to the study of mass rubrics.

Enough for now — I must go and pack my bag for Lenox. — CLAUDE W. BRENNER, Secretary, 100 Memorial Drive, Cambridge 42, Mass.

## 1950

John Bonner received an award from the American Institute of Chemical Engineers in recognition of the excellence of his presentation of a paper. His was selected as the best of any paper presented at the national meeting of the American Institute of Chemical Engineers in Pittsburgh in September. The paper, "An Integrated System for the Automatic Solution of Distillation Problems," revealed a computing procedure for solving problems in the design and evaluation of distillation towers. Heretofore, the tremendous amount of human effort required has made it impractical to make accurate calculations. These problems were solved by approximation. The completely automatic electronic computer gives an exact solution in an hour or two that would have taken months with slide rule or the conventional desk calculator. John is a member of Technical Service Division at Baytown Refinery of the Humble Oil and Refining Company. A large number of other companies are now using this new method since details were released.

Les Allison was transferred from the New Haven, to the New York office of Olin Mathieson. He bought a house in Old Greenwich, and, to quote him, "Still just one wife, one daughter, and one cat." Norton Belknap, still with Esso Standard Oil Company, is doing economic evaluations of new projects. Norton has a new house and a two-year-old daughter, Paula, to keep him busy when he's not at the office. Dr. Henderson Cole, Jr., is now head of the X-ray research group in Physical Research Department, International Business Machines, Poughkeepsie, N.Y.

James A. Drobile was married October 8, 1955, to Dorothy E. McGillicuddy of Bryn Mawr, Pa., in Villanova University Chapel. They are now living in Penfield Downs where he works as project leader in Research and Development Department at Sun Oil Company, Marcus Hook, Pa. Joe D'Annunzio is now working on Jersey City Sewerage Authority Project. It is a \$30,000,000 project under construction by five joint venturers. Robert



Garvin has been appointed supervisor of production control at the Evendall Ohio plant of General Electric Company. Frank Ferrigno is now employed by A.R.O., Inc., operating contractor for the Air Force's Arnold Engineering Development Center.

Dan Fawcett, his wife, Nancy, and their two-year-old son, David, are now living in their new home in Upper Montclair, N.J. Dan has changed positions from Monrobot Corporation to Federal Telecommunications Laboratories in Nutley. He is working in the digital computer field. Charles "Fitz" Grice still is with the Schlumberger Well Surveying Corporation. In January 1956 he was transferred from Tyler, Texas, to Monroe, La., as district manager of the Monroe area. Chuck Herbert transferred from Schenectady to San Jose, Calif., for work as manufacturing engineer of the Atomic Power Equipment Department of General Electric Company.

Bill Harris was an Army instructor at the Camp Gordon Signal School from November 1953 to November 1955. He is now doing missile guidance work at McDonnell Aircraft along with Joe Twombly and Jim McAllister. Ed Pershe is employed by Black and Veatch, Engineers, designing water and sewerage treatment projects. Ralph Quinlan has been named assistant development manager of the Windsor, Goodyear Rubber Company plant. Ralph started his career with Goodyear in 1950 as a trainee on the Production Squadron in Akron. In 1951 he transferred to Windsor and has assumed various duties in the Development Department. Ralph and his wife, Kathy, live in Windsor with their three youngsters, Dan, five, Tod, three, and Kathy, one.

Harry Rabb has been with Westinghouse Atomic Power Division since graduation, with a year off to attend the Oak Ridge School of Reactor Technology. He is now supervisory engineer in charge of the nuclear design of the second large-ship reactor core. The Rabbs, have three children; Connie, four, Harry, 3d, two and a half, and Cynthia, one. Thor Stromsted, formerly with the Oliver Corporation in Chicago, went with the T. L. Smith Company, Milwaukee, in charge of research and development of new products. The company is a leader in manufacture of truck mixers for ready-mix concrete and is aggressively expanding in other construction and road building equipment. Dave Levington left Abraham and Straus last year and is now buying toys for Lit Brother's Department Store in Philadelphia and living in Swathmore. After five years with Du Pont, Hank Quigley is finally serving his stint with the military—and in a very interesting way. He is with Admiral Rickover's Naval Reactors Branch of the Atomic Energy Commission working on nuclear propulsion. Suren Semonian was transferred within the Naugatuck Chemical Division of the U.S. Rubber Company. His current work is project engineering in the Division Engineering Central Group.

Officials of General Electric's foundry department in Everett, Mass., announced the appointment of Alfred Steck as manager, product engineering, Everett, Lynn foundries. Al joined General Electric in

1950 as a metallurgist. Since then he has been employed in the Everett foundry as plant metallurgist. His work in metallurgy won a managerial award for his effort in developing a modified 12 per cent alloy for castings. He has made substantial contributions to the science of foundry engineering. He has authorized several technical papers; most notably, a widely received article on a carbon dioxide process that simplifies the making of cores. Al, wife, and three children are living in Melrose, Mass.

Ted Metzger sent along the annual Christmas newsletter of the Alpha Tau Omegas, telling of his fellow fraternity brothers. Don Starner was the father of a girl, Susanne Patricia, born March 6, 1956. He has moved to Mount Vernon, N.Y., to be closer to his work at 20 Broad Street in New York City. He expects work on the new building there to last until spring, after which he is hoping for another New York assignment. Bud Simpson was father of a second daughter, Nancy Jane, on September 21. For Wally Hyde, this was a year long to be remembered, for he got out of the Army, returned to California, and became a father. After his release from the Army, he decided to head back to the West Coast and obtained a job with the Donner Scientific Company, as senior design engineer. This is a young organization with a new plant and room for expansion, so he is hoping for the best. He was the father of a daughter, Nancy Anne, on September 25 in Berkeley, Calif.

Bill Bakemeger was released from the Air Force and is now with Convair in San Diego as a project engineer. Jack Drysdale reports a son, John Taylor, born April 9, 1956. Jack recently bought a new home north of Wilmington, Del., and is enjoying his work at Du Pont. He now has his name attached to approximately 15 patents in various stages of production. Ted Metzger has had a year of great events, having become father to Stephen Crandall on September 10. Simultaneously with this, he moved into a new house in Fern Creek, Ky., which had been in the building stage since the previous May. Since then, it seems he has either been feeding the baby, planting grass and shrubs, or working at General Electric. Alonzo Feldbrugge is an assistant editor on the staff of *Food Processing* magazine. Before joining the Putnam Publishing Company, Lon was a project engineer with the Colgate-Palmolive Company. Garvin Moore is over at school in the Servomechanism Research Laboratory. Bill Farmer is with U.S. Steel Corporation in Pittsburgh, Pa., and John Thompson is way up in Fairbanks, Alaska, with *The Daily News Miner*.

The Baby Band Wagon keeps moving along at a merry pace. I only hear of a small percentage of all of '50 offspring, so come on, all you proud fathers, drop us a line telling of your pride and joy. This month's listing: Owen Thomas, 3d, to the Duke Thomases; Daniel Raymond on December 12, 1956, to Jim and Gay Baker; Jorge Enrique (George Henry), on December 21, 1956, to Mariano and Virginia Romaguera; and David Edward on January 3, 1957, to Sal and Vera Marshall.

The following from Helen Reed: "There comes a time in every wife's life when she must take matters into her own hands. On October 3, 1956, Harry and I became the parents of a six-pound, fourteen-ounce baby girl, who may never attend M.I.T., but will always be proud of her dad. On April 11, 1953, Harry and I (formerly Helen Fuenfgeld) were married in Baltimore and lived and worked as mathematicians in Aberdeen for several years. Now, after a two-year sentence with the Army, Harry is chief of the Theory Branch, Exterior Ballistics Laboratory, Aberdeen Proving Ground, and I am chief of our daughter, Helen Louise, and our house. Incidentally, I was graduated from Goucher College in Baltimore, and it was during a math course in partial differential equations that Harry and I met."

Now, all you other loving wives follow Helen's lead and write us about you and your husbands. This last year it has been like pulling teeth to get enough material together for a column. Your reporter will appreciate any and all bits of news about anyone connected with our Class.—JOHN T. WEAVER, *Secretary*, 24 Notre Dame Road, Bedford, Mass.

## 1951

This month's news covers a lot of geography. Some of our classmates have been seeing a great deal of the country and the rest of the world as well. Joe Hodnick, for example, has just returned from five months of touring Western Europe, from Scandinavia to Italy; Joe is designing prestressed concrete for Freyssinet Company, whose home office is in downtown New York. Mike Lecar is now in Washington, a lieutenant in the Navy, and working as a physicist on Project Vanguard, the earth satellite. After leaving Tech, Mike spent a summer with General Electric, and then got his master's degree from Case Institute. He spent two and one half more years working with Jack and Heintz, Inc., in Cleveland, before being offered a position he says he could not turn down—with the Navy. The Navy assigned him to duty in New Mexico, teaching physics, and later transferred him to his present post in Washington.

John Clegg got away from the cold at Niagara Falls to take three weeks of vacation in Mexico. Before he left, he had his movie camera loaded for side trips to Cuernavaca, the pyramids, Acapulco, and the like. Paul Dalrymple, on the other hand, is headed for Antarctica for 18 months of geophysical research at Little America. Paul has seen a wide variety of geophysical work since leaving Tech, and is now a member of the International Geophysical Year scientific team studying glaciology.

Rod Huppi has sent in a report on several of the Course XII men who are out hunting for oil in various parts of the country. Rod himself is handling both surface and sub-surface geology in the San Joaquin Valley for Standard Oil of California. He and his wife, Ginny, have two sons now, Greg and Glen. Jim and Pat Salvesson have bought a home in La Habra, Calif., where Jim is also working

for Standard Oil interpreting seismic findings for offshore work. Jack and Mary Healy are in Duarte, Calif.; Jack is not looking for oil at the moment, but is a graduate student at California Institute of Technology. They had a boy this fall to add to their two girls. Lew Schaeffer and his wife, Ellie, are building a new home in McAllen, Texas. Ed Clark and Norman Bassett are both in Casper, Wyo. Ed was married last summer.

Louis Galan sent an equally thorough report on who's who at Wright-Patterson Air Force Base. Louis is now a captain, after two years at the University of Michigan under the Air Force Institute of Technology post-graduate program. He says that the work at Michigan was very stimulating; the results were two master's degrees, one in aeronautical engineering and the other in mechanical. Other members of the Class who are now at Wright-Patterson include Captain Bob Knopf, materials laboratory; Lieutenant Mike Hauffman, flight controls laboratory; Pete Plender, weapons systems project office; and Joe LaQuanti, power plant laboratory. Joe has recently announced his engagement to Rita Coverdale of Tiffin, Ind. A Christmas card from Bob Knopf mentioned spending some months in Montgomery, Ala.; he says that he is about to freeze, now that he is back in Dayton.

Harvey Hopkins has returned to Pratt and Whitney Aircraft's Hartford plant after being "on loan" to Oak Ridge National Laboratory for two years. He and Lucy have a son, Stephen, who is approximately one year old now. Harvey mentions that he is shortly to move into a government laboratory that Pratt and Whitney will operate for the development of nuclear power for aircraft. Bill Fincke is living in Milwaukee, where he has just bought a new home. He is working for AC Spark Plug Division of General Motors Corporation, and has three children; two boys and a girl.

Back in Cambridge, Freddie Ezekiel is an assistant professor in the Mechanical Engineering Department, and is faculty advisor of the American Society of Mechanical Engineers student branch. Freddie was married to Bessie Robinson at the M.I.T. chapel on August 26 last year, and they live in Belmont. Chuck Hieken is now a registered patent agent, working for the firm of Fish, Richardson, and Neave in Boston while finishing his third and last year at Harvard Law School. Morley Kahn is also at Harvard, enrolled in the Business School.

Gene Koch is in Louisville, Ky., with General Electric Appliances Company. His job as a specialist in materials handling includes quite a bit of travel. He reports that he and Betty have two boys, ages two and one half and one. They have just bought a house in a Louisville suburb. Al Gwynne is with Standard Oil in San Francisco. His work, mostly along civil engineering lines, deals largely with refinery problems. Al's family includes two girls, four and a half and three, and a boy, two. Their new home is across the Golden Gate in Marin County, and Al still has a few agricultural problems to solve in the way of back-yard planting. Bob Woolworth was married last June,

to Sylvia Stanley, in Linden, N.J. With Sylvia's help, he finished up his master's thesis in Boston during the summer, and is now an associate soils engineer with Greer Engineering Associates in Montclair, N.J.

Hank Helfrich, since his two years with the U.S. Air Force in Dayton, has helped run the family millwork and lumber business in Baltimore. Hank was married while in the Air Force, and he and his wife have recently finished a new home in Catonsville, west of Baltimore. Burton Dempster is sales manager of Franklin Electronics, Inc., Bridgeport, Pa., a company engaged principally in electronic approaches to data reduction and in nuclear instrumentation. Horace Lander (D.Sc.) has been appointed supervisor of process development for Jones and Laughlin Steel in Pittsburgh. Walt Johnson, also a metallurgist, is handling the 2,000,000 volt X-ray machine at the Louisville Naval Ordnance Plant, checking for metallurgical imperfections in the plant's five-inch anti-aircraft guns as they are produced. Bob Hudders is living in Tonawanda, N.Y., and working at the engineering laboratories at Linde Air Products Company. Bob has his professional engineer's license and has recently been spending much of his spare time working with local music activities.

Hubert Knipmeyer received his Ph.D. in organic chemistry from the University of Illinois this year and has joined the research staff at Du Pont in Wilmington. Ken Kopple holds an assistant professorship at the University of Chicago. His research work at present is concerned with the properties and synthesis of polypeptides. Don Terp is studying for a master's in civil engineering at Yale. Dick Foster was married last August to Marilyn Stride, in Omaha. Dick's work with Peter Kiewit Sons' Company at the Omaha office is split between office and field duties. Recently, he was job engineer on a \$2,500,000 insurance building of very modern design. Dick and Marilyn expect their first family addition in July.

Bob Nickerson married Nancy Whittemore, in Concord, N.H., last November. After a honeymoon trip to Bermuda, they made their home in Needham Heights, Mass. Harry Wolf and F. Joyce Lindsay were married in Tenaflly, N.J., in November. Elliott Cutting is an electrical engineer in the guidance and control laboratory at the Army Ballistic Missile Agency. Aaron Brody received his Ph.D. in food technology from the Institute this February and joined the Whirlpool-Seeger Corporation of St. Joseph, Mich., as head of their new food technology research department. While at Tech, he worked on those "masticating molars" made famous by *Life* magazine.

Art Compton, who is now a science instructor at Phillips Exeter Academy, has been appointed as assistant director of Harvard's new Institute for Teachers of Science. This is a program in which some 45 high school teachers will spend the academic year of 1957-1958 at Harvard; it is hoped that this and similar programs will stimulate and strengthen the teaching of science and mathematics in our secondary schools. Mark Franklin wrote early in January that he expected

to be a father any minute. Mark is chief industrial engineer at Narmco, an aircraft plastics company in San Diego. He has been with them since getting out of the Navy in February of 1956. Mark is also in charge of publicity for the western region American Institute of Electrical Engineers conference, which is in San Diego this April.

Perhaps a good note to close with is the one from Hal Jones. It sounds like a true success story. When we heard from Hal on January 2, he was construction and maintenance superintendent for the Minneapolis Division of Continental Oil Company. He mentioned, almost parenthetically, that he expected shortly to become secretary-treasurer and general manager of Rydeen Construction Company, Saint Paul, Minn. — RICHARD W. WILLARD, *Secretary, Box 105, Littleton, Mass.* ROBERT S. GOOCH, *Assistant Secretary, Freese and Nichols, 407 Danciger Building, Fort Worth 2, Texas.*

## 1952

Stan Buchin has some shady project of his own this week end (if I understood him, it was the Wellesley Carnival), and so I, as third assistant secretary, have a chance to write this column. We have now received most, if not all, of the return cards on the reunion mailing we sent, and this gives me a chance to summarize them and a few of the comments that came on the cards.

One hundred thirty-one men have said they think they will be able to come to the Reunion, June 9 and 10. Of these, 92 are bringing their wives or feminine friends; 233 in total. My name is not on a card, nor is Melissa's, or Buchin's, and I know of several other lazy Class officers, so at least 250 are planning to come. Remarkable! We are scheduled to have a fine week end. We have just short of \$300 returned as Class dues. Phenomenal! The reunion is getting better all the time. John Ward is taking the more than 40 replies we got from men who wanted to be Regional Chairman and will write them all soon.

A number of cards came back with remarks written on them. I have two or three here. George Brady sends his "greetings from the Farm Belt." He is married to a girl from Lexington, and their first is six months old, a boy. "Already I can see signs of genius." True, undoubtedly true. Chuck Mathews, Course I, is on active duty with the Navy as a public works officer at the Naval Air Station in Niagara Falls. He married a girl from St. Paul, Virginia Stryker, in August, 1956, and they are planning a Navy career. Chester D. Evans, Captain with U.S. Air Force, wrote that much as he would like to come to the reunion, he will be away, far away until June, 1960. He gives a San Francisco APO. That means far away, I'm sure.

The other night at the Midwinter Alumni Meeting, Jim Warren, Ken Childs, and John Brady held up the honor of the '52 table, along with a number of the regulars. Al Staples, XV, was around the other day. He is working for a manufacturer's agent and has the whole New England area under his thumb. He has a pilot's



license and a plane, so I guess he commutes farther in a wink than most of us in a week. Don't forget: On the ninth of June, the Class of 1952 is having a party at the Mayflower Hotel in Plymouth, Mass. This party will be a party to end them all, and we won't have another like it for five long years. And so just don't miss it! — ROBERT M. BRIBER, *Third Assistant Secretary*, Room 7-205, M.I.T., Cambridge, Mass.

## 1954

It is perhaps a little late to be talking about the Christmas holidays, but since no report has been made yet of at least one event which occurred during that time, we shall take care of it now. The Upper East Hayden Physics Society held its first meeting since June, 1954, in New York last December 27. Members of the Class who were in attendance included Art Jacob, Larry Leonard, Rog Griffin, George Schwenk, and the undersigned. Dick Hayes, Bill Romig, and Dick Morley had planned to attend, but for one reason or another were all forced to send their regrets. The society was in continuous session from 3:00 P.M. until 5:00 A.M. the next day, and was in discontinuous session for two days thereafter. The meeting convened at the Hotel New Yorker, and from there wandered over a large section of southern Manhattan. The only official business of the meeting resulted in a resolution to the effect that we are getting old, and can't take these all-night sessions as well as in our undergraduate days. Nevertheless, it was heartening, as well as downright enjoyable, to discover that the old organizations are still alive and kicking. Fran Selviteli '55, and Herb Katz '56 also joined in the festivities. During the general revelry that prevailed, it was learned that Art Jacob, who returned from almost two years with the Air Force in England last November, is now working on a law degree in Washington, D.C., hoping ultimately to go into patent law. Larry Leonard is still at Tech, hard at work on his doctorate in metallurgy. Rog Griffin left the Army in December, and at last report was still looking (not very hard) for a job in the Boston area. George Schwenk, who returned from Korea last fall, is back at the physics books out in California.

Other items include word from Ron McKay that he and Sally are enjoying life at Ft. Belvoir. Ron says that he is coaching a crew team at George Washington University and doing some architectural work in his spare time. From Oakland, Calif., Tom Bastis writes that Shirley and Emil Krejci had their second child last October, Emil Louis Krejci, 3d. Emil is due to be released from the Air Force in June. In the meantime, he works nights with the Air Force on Wind Tunnel Research, and works days representing a local manufacturing company. The rest of the time, he loafs. Tom claims that the Krejcis are "sold one hundred per cent on the Bay Area as a fabulous place to live," and will probably stay out there after Emil's discharge. Jan and Coley Bresee are also camped in that vicinity. Coley is personal affairs officer at Parks Air Base until discharge time in June.

There is a rumor going around, by the way, that the Bresee's dog, Cosmo by name, recently had a family. Marti and Rich Wilson are now living in Cleveland, where Rich is working with Reliance Electric Company. Rich got his discharge from the Army last fall. And last, but not least, Tom reports that he and Ruth-Alison are the proud parents of Jonathan Thomas Bastis, who made his appearance on January 2.

From Korea, John Dixon sent a card asking if any members of the Class are still stationed there besides himself. As far as I know, everybody who was there has now returned. If any of you know of anyone else over there, please let poor old John (and me) know about him.

Two more members of the Class have taken that long walk down the middle aisle. Joe Scheller married Rita Hartman in West Palm Beach, Fla., on December 23. Joe is currently with the Air Force, stationed at Ellington Air Base, Houston. Dick Walker and Carol Pope were married in Brattleboro, Vt., on November 11. Dave Wones was among the official on-lookers. Dick is also with the Air Force, stationed at Barksdale Air Base in Louisiana. We also have word that Stan Wolk was recently named superintendent of the Pittsburgh Plate Glass Company in Ford City, Pa. Stan is living just across the way in Manorville, Pa. Shel Dick was finally caught by the Army, and was last seen towed across the Atlantic. Stan Hoff, on the other hand, is among those who have escaped the khaki life, and is resting peacefully in Brooklyn. Tom Knapp is solving equations at Harvard. And to conclude this month's gossip, Genevieve Lavedan married Frank Ubel last fall, and is now living in St. Paul Minn.—EDWIN G. EIGEL, JR., *Secretary*, 3654 Flora Place, St. Louis 10, Mo.

## 1956

In previous articles I urged you to attend Alumni Day and I had planned to follow my own advice, for a change, but Uncle Sam must read this column, too, because he promptly moved forward my reporting date to exclude me from the festivities. There must be some fortunate members who will be in Cambridge in June.

Being new and unsettled citizens in the nine-to-five world you people are harder to catch than mercury on a hot plate. Some have already changed addresses four times since June, and finding where you work and who caught you adds to the fun. Here again Uncle Sam is helping by shuffling the deck a few times, although some of you lucky people in the Army have already finished your active duty tours. To mention a few last heard of in the care of their rich uncle, we have Private Charles Waterman in the Army, assigned at Fort Dix, N.J., in November. Andrew Edmonds and Paul Lempel graduated from the Navy Officers' Candidate School at Newport, R.I., in November. Lieutenant William Randolph received the Association of the United States Army Medal for scholastic excellence and leadership ability at Engineer School, Ft. Belvoir, Va., in

November. Lieutenants William Leitch, Guy Schmidt, Harold Stein, and Anthony Turrisi completed their basic course at Chemical Corps School, Ft. McClellan, Ala., in January. Lieutenant Roland Bescher graduated from basic course at Quartermaster School, Ft. Lee, Va., in December. Lieutenant's George Alexandridis and Richard DuVal graduated from basic course at Engineer School, Ft. Belvoir, Va., in December. Lieutenant Robert Mansperger recently wrote me from Chanute Air Force Base, Ill. Lieutenant Martin Reiss, of our executive committee, has written from Wright-Patterson, Air Force Base, Ohio, that he is in the company of Lieutenants Gene Marcus, Paul Polishuk, and Richard Quinn. Lieutenant Morrin Hazel is at Aberdeen Proving Ground, Md., where Lieutenant Warren Briggs joined him in March. Lieutenant Russell Schweickart is stationed at Bainbridge Air Force Base, Ga.

This month is as good a time as any to catch up on weddings and engagements that might have slipped by me. Engagements: Richard Brooke to Jacqueline Elaine Snook of Winchester; George Brown to Kathryn D. Sutherland of LaGrange, Ill.; Robert Mansperger to Patricia McKibben of Euclid, Ohio. Weddings: Alexander Aitken to Janet Anne Breeding of Lynn in June 1956; Harold Becker to Marcia Doris Finkle of Allston in October; Terrance Carney to Marian Martyn Lukens of Cynwyd, Pa., in November; Ronald Clark to Judith Joan Littlefield of Wrentham in October; Domenic Fazio to Marie C. Gorrasi of Winchester in November; Marinos Gerakaris to Elizabeth Ann Brooke of Medford in December; Philip Kimball to Janet Edith Newall of Belmont; Richard Young to Dianne Mellgren of York, Maine, in January; Robert Zomack to Harriet Ann Ossen of Torrington, Conn., in November. Correction in the December weddings; Marvin Bahnman to Judith Callivan.

For those of us who dined in restaurants regularly during our stay at Tech and to the ever-dwindling number of bachelors who still do, this should be mouth-watering and painful. In western Kentucky in the village of Possum Trot, the main edifice is an eatery by the name of the Trot Inn. Within this unpretentious establishment there resides, besides the management, a parakeet named Sweetie Pie. But to the point, one of the most popular items of cuisine herein is a large T-bone steak with trimmings for \$1.25. Other delicacies, more local in flavor, are frogs' legs and lake catfish.

Although the Class has tended to scatter with the winds, there are a few nooks and crannies around the country where groups are gathering. Convair at Fort Worth seems to have a pretty good cross section; aeronautical, electrical, mechanical, and industrial engineering, and physics. We have Marvin Bahnman, Matthew Barrett, John Boop, Guy Spencer, and Douglas Willis. And then there was the note I received the other day asking where I had obtained such a high B. S. degree. Wise guy, huh? — BRUCE B. BREDEHOFT, *Secretary*, 1528 Dial Court, Springfield, Ill. M. PHILIP BRYDEN, *Assistant Secretary*, 3512 Shutter Street, Montreal, Quebec, Canada.



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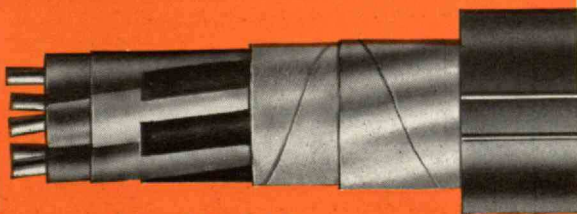
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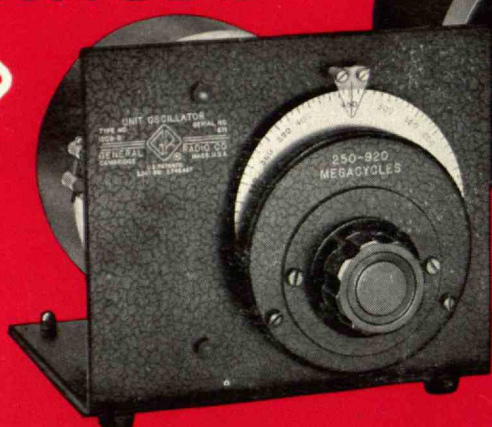
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